The University of Chicago

EMBEZZLEMENT

A STUDY OF ONE KIND OF CRIMINAL BEHAVIOR, WITH PREDICTION TABLES BASED ON FIDELITY INSURANCE RECORDS

A PART OF A DISSERTATION SUBMITTED TO THE FACULTY OF THE DIVISION OF THE SOCIAL SCIENCES IN CANDIDACY FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

DEPARTMENT OF SOCIOLOGY
1939

By
ELIZABETH REDDEN

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CHAPTER I

INTRODUCTION

The developing science of Criminology has produced many generalizations concerning crime and criminal behavior. Studies of specific categories of crime are few. Criminology will attain the status of a science, the writer believes, by adding to its developing body of knowledge increments about specific types of crime arrived at through use of scientific methodology.

The Problem

The factors which play a role in the crime embezzlement and their relative significance for predicting embezzlement constitute the major problem with which this research is concerned. The present study is, to the writer's knowledge, the first of its kind in that it is an attempt to determine the factors which influence, not crime in general, but one specific category of crime, embezzlement. It represents an attempt to apply the severe test of prediction to this one type of criminal behavior by constructing a prognostic device based on the combined effect of the significant factors weighted by point scores in respect to their relative importance to embezzlement.

A control group of 7,756 bonded employees, non-embezzlers, was used and it was assumed that these were representative of white collar employees in positions of trust in the general population. The prediction technique applied in this study attempts to pick out of the population of bonded white collar workers those who will embezzle. Earlier prediction studies in Criminology have not used a control group.

Statistical Studies in Criminology

Statistical studies to determine factors which have some bearing on crime are not new to the field of criminology. The nineteenth century in Europe produced numerous contributions of relative importance in which attempts were made to show statis-

tically the influences of physical, social, and economic factors on crime. Quetelet, the Belgian mathematician, in his Physique sociale[1] (1869) studied the influence of climate, age, sex, and other factors on the tendency to crime. Mayr, in his Statistik und Gesellschaftslehre[2] (1897), was concerned with the relation of price changes in wheat and other grains to crimes against property and crimes against the person. Corne, in his Essai sur la criminalite[3] (1864), studied the relation of isolation, that is, lack of family, home, and fixed occupation, to crime. Lombroso,[4] in his L'uomo delinquente (1876) and in his Crime, Its Causes and Remedies (1899), Ferri in La sociologie criminelle[5] (1893), Garafalo, in La criminologie[6] (1890), and followers of the Italian school attempted to study individual criminals to determine causes of crime, criminal types, and factors favorable to crime. Tarde[7] in France and his followers challenged Lombroso's theory of a born criminal type and claimed that crime is primarily due to imitation. In 1913 Goring's study of The English Convict[8] compared three thousand prisoners with the law-abiding public in respect to certain anthropometric and vital measurements. This study revealed no evidence of a criminal type. Bonger, the Dutch crimi-

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[1]A. Quetelet, Physique sociale (Bruxelles: C. Muquardt, 1869).

[2]G. v. Mayr, Statistik und Gesellschaftslehre (Tübingen: J. C. B. Mohr, 1914).

[3]Cited in W. A. Bonger, Criminality and Economic Conditions, trans. Henry P. Horton (Boston: Little, Brown and Company, 1916), p. 47.

[4]C. Lombroso, L'uomo delinquente (Torino: Fratelli Bocca, 1896-97); Crime, Its Causes and Remedies (Boston: Little, Brown and Company, 1912.

[5]E. Ferri, Criminal Sociology, trans. J. I. Kelley and others (Boston: Little, Brown and Company, 1917).

[6]R. Garafalo, Criminology, trans. R. W. Miller ("The Modern Criminal Science Series"; Boston: Little, Brown and Company, 1914).

[7]G. Tarde, Penal Philosophy, trans. R. Howell ("The Modern Criminal Science Series"; Boston: Little, Brown and Company, 1912).

[8]C. B. Goring, The English Convict (abridged ed.; London: H. M. Stationery Office, 1919).

nologist, in his Criminality and Economic Conditions[1] (1905), was concerned with the importance of economic conditions in the etiology of crime.

The statistical studies in Criminology with which the present research is most closely allied are the prediction of parole studies by American writers. The method of combining factors, weighted in terms of their relative importance, into prognostic tables was first applied in Parole and the Indeterminate Sentence[2] (1928) by Burgess. Information on twenty-one factors was used to compute violation of parole rates. The average rate of violation for the institution served as a base for assigning weights to the categories. Cumulative scores for parolees were tallied into score classes and the proportion of violators of parole in each group gave the expectancy rate.

Burgess' study was followed by another more intensive prediction of parole study, 500 Criminal Careers[3] (1930), by the Gluecks. Whereas Burgess used all the factors which played a role in the behavior of parolees, the Gluecks selected only the most important factors, as determined by contingency coefficients, to construct prediction tables.

The study Prediction Methods and Parole[4] (1931) by Vold represented a combination of the methods of Burgess and the Gluecks. Vold used the Gluecks' method of selecting the most significant factors and Burgess' method of weighting the factors. A fuller discussion of these pioneer prediction studies in Criminology will be found in Chapter VI, "Scientific Methodology in Criminology."

The European studies, with the exception of Mayr's, which were based on crimes known to the police, and the prediction of parole studies mentioned have been based on criminal statistics

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[1] Bonger, op. cit.

[2] E. W. Burgess and others, Parole and the Indeterminate Sentence, A Report to the Hon. Hinton G. Claybaugh (Chicago: Parole Board of Illinois, 1928), Pt. IV, "Factors Determining Success or Failure on Parole."

[3] S. and E. T. Glueck, 500 Criminal Careers (New York: Alfred A. Knopf, 1930).

[4] G. B. Vold, Prediction Methods and Parole (Hanover: The Sociological Press, 1931).

of prisons and reformatories.

The present study utilized data from the records of one of the largest fidelity insurance companies in the United States because these statistics were relatively complete and considered more reliable than statistics based on crimes known to the police, prison commitments, and other criminal statistics on the crime embezzlement.

Criminal Statistics and Embezzlement

Most statistical studies in Criminology have been based on prison and reformatory commitments, crimes known to the police, arrests, prosecutions, and convictions. These statistics were considered incomplete and unreliable, for studying embezzlement for the following reasons: (1) Uniform crime reporting in the United States has not been adopted and in certain states the category of crime embezzlement does not appear in the statutes. Embezzlement is frequently grouped with fraud, theft, forgery, and larceny. For those states not listing embezzlement in a separate category, the recorded statistics cannot be broken down to determine the extent and nature of embezzlement. (2) Not all embezzlers are prosecuted, not all who are prosecuted are convicted, not all who are convicted go to prison, and not all who are imprisoned for embezzlement are entered under the category of embezzlement. (3) A large number of embezzlement cases are never made known to the police nor courts because some embezzlers come from reputable families with social, political, or financial status, and have friends or colleagues who exert pressure to keep the case quiet. Embezzlements are known frequently only to the employer, the bonding company, and the embezzler. When restitution is made and there is no prosecution, the case is often hushed. (4) It is unlikely that the police would know of an embezzlement unless the embezzler attempted to hide or abscond. Then the police would be notified to apprehend him. In the case of an embezzler committing suicide the police would know of the crime. Ordinarily the police are not called in on the case, unless the bonding company or the employer deem it necessary. Some of the reasons for arrest are: to hold the embezzler until the accounts have been audited to make certain the total amount of embezzlement; to make an example of the embezzler for purposes of deterence; to prevent the embezzler from leaving the state or country or from committing suicide.

Although crimes known to the police are the most reliable bases for indexes of criminality in general in the United States, they are both inadequate and unreliable for purposes of studying embezzlement. The data which appear to be more trustworthy and reliable on embezzlement are the records of fidelity bonding companies. The records of claims show not only the extent of violation of the law but also the character of the embezzler or violator and the social antecedents or conditions of the criminal act.

In a pamphlet "Millions under Bond," Mr. Richard T. Wood, Manager of the Bank Division Fidelity Department of the American Surety Company of New York, says:

> Fifteen million persons in the United States are estimated to be under fidelity bonds. This means that one out of every three gainfully employed is under bond. Put in another way, the total is twenty-five percent more than the number of persons listed in telephone directories through the nation or is about the same number as voted the Republican ticket in 1932.[1]

Fidelity Insurance and Embezzlement

Fidelity Insurance is concerned with embezzlement. A fidelity bond is an instrument in writing and under seal, whereby a surety company guarantees to an individual, firm, corporation, association, or government, to be answerable to the penalty of the bond for the honesty of the person or persons bonded, or for their faithful performance of duty.[2] Dunham, in The Business of Insurance,[3] makes three classes of fidelity bonds: (1) larceny or embezzlement bond, (2) culpable negligence bond, and (3) faithful performance of duty bond.

In this study, we are concerned with embezzlement bonds, those covering the honesty of persons who do or do not convert to their own use or to the use of another property which belongs to another and which is legally in their possession. Thus, fidelity bonding, limited to those persons covered as fidelity risks under

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[1] R. T. Wood, "Millions under Bond" (American Surety Company of New York, n.d.). (Pamphlet.)

[2] R. R. Roulston (ed.), Textbook, Fidelity Bonds, Surety Bonds, Casualty Policies . . . . (Baltimore: United States Fidelity and Guaranty Company, 1920), pp. 12-14.

[3] H. P. Dunham, The Business of Insurance (3 vols.; New York: The Ronald Press Company, 1912), II, 513.

embezzlement bonds, may provide information relevant to the questions: Who are embezzlers? What are their characteristics? and, What are the probabilities that bonded persons will embezzle?

Certainly a great many embezzlements take place which are not covered by bond. It would be impossible to estimate the number, nor are there any reliable statistics available on these cases. Since, by definition, embezzlement is a crime whereby a person or persons fraudulently convert to their own use or to the use of another the property of another legally in their possession by nature of their employment, a representative sample of embezzlers taken from the claim files of one of the largest bonding companies in the United States would seem to give a fairly accurate and adequate picture of the white-collar criminal, the embezzler.

An intensive study of suretyship, including a careful survey of all types of bonds and coverage, and an exhaustive examination of the claim files and records of bonded non-violators of fidelity bonds was made before undertaking the present research. Because of the limits which the data themselves imposed and the method of sampling which the available information necessitated, only those persons covered by fidelity individual bonds and liable under the embezzlement laws were included in this study.

Collection of Data

The data upon which the present study is based were assembled from the records of the United States Fidelity and Guaranty Company of Baltimore, Maryland, for the years 1926 to 1932 inclusive.

A claim file might contain claims against Mercantile, Fraternal Order, Federal, Bank, Public Official, Railroad, Contract, and Judicial bonds. Also, the stacks of bond application forms of non-violators of fidelity bonds, which included first, continuous, and renewed bonds, might contain the same types of bonds mentioned above. Only individual[1] fidelity[2] bonds and

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[1] An individual fidelity bond covers one person only, in a designated position at a specified location.

[2] Fidelity bonds include Mercantile, Fraternal Order, Public Official, Bank, Federal, and Railroad. Definitions, forms, terms, coverage, restrictions, and limitations differentiate them.

claims were used in collecting our data.

It was impossible for the bonding company to tell how many persons covered by fidelity bonds embezzled or how many persons were bonded in any year, because not all bonds are individual bonds. Some fidelity bonds are position,[1] or schedule,[2] or blanket.[3]

The bond application forms of the non-embezzlers and the claim records of embezzlers were filed separately and numbered separately and consecutively at the time of filing in the home office. The method of selecting the sample was that of measuring uniform distances in the file drawer, which, by repeated testing, proved to be the same as counting off twenty folders, then taking the twenty-first. If the twenty-first record in numerical order was out of the file, or the twenty-first case was not within the scope of the study, the twenty-second case was taken, then twenty more were counted, and the twenty-first taken. As the files were not arranged in any significant order, that is, they were not arranged alphabetically nor geographically nor by bond form, the biasing effect of the substitutions is not serious. By careful counting off of every twentieth case and the selection of the twenty-first case, over the period of 1926 to 1932 inclusive, 2,454 embezzlers and 7,756 non-embezzlers were selected. In all, 10,210 cases (embezzlers and non-embezzlers) constitute the sample. The information on each case was copied on 5" by 8" cards, a copy of which appears on the following page.

Method and Technique

Embezzlers and non-embezzlers were compared in respect to twenty-two factors: Amount of bond, occupation, employer's busi-

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[1] Position Bond is a schedule bond in form, covering any person occupying any position specified in the list attached to the bond for the amount set opposite the position. (The names of the employees, however, are not specified in the list.)

[2] A Schedule Bond covers one or more persons whose names, positions, locations, and amounts of bonds are set forth in a list or schedule attached to the bond.

[3] A Blanket Bond is issued for a specific penalty or amount and covers all employees as defined therein, without requiring any list or schedule of bonded employees or positions. Under a Blanket Bond, the employer cannot select the employees to be covered, as all eligible employees in the group must be included without exception.

Case No. Line Risk City, State

Date of Bond: Renewed: Expired, Cancelled: Amt. Bd.:

Date of Claim: Amt. Claim: Loss Co. Paid:

Premiums Paid by: Place Bond Issued: Salvage:

Principal's Position:

" Business Address:

" Home Address:

Obligee's Business:

" " Address

Charge:

Age: Sex: Marital Status: Color: Nationality:

Birthplace: Parents Living: Parents Residence:

Dependents: Monthly Salary: Monthly Other Income:

Value Property, Real Estate: Debts: Ever Bankrupt:

Bonded Before Co., Times Ever Declined bond:

Value Parents Property: Nature Previous Positions:

Length in two Previous Positions: Reasons for Leaving:

References:

[case study on reverse side]

ness, city, age, sex, marital status, color, nativity, parents living, parents' residence, dependents, salary basis, monthly salary from bonded positions, source of other income, monthly other income, value of property, debts, bankrupt, declined a bond, number of times bonded previously, length of time in first previous job and length of time in second previous job. Coefficients of mean square contingency were computed to determine the relative importance of the twenty-two factors to embezzlement. Twenty of these factors, with contingency coefficients ranging from .104 to .691 were considered significant.

The analysis of the twenty factors associated with embezzlement showed that no one factor was of marked significance in respect to the violation or non-violation of a fidelity bond. In this respect the present study shows a similarity with the parole prediction studies of Burgess,[1] the Gluecks,[2] and Vold.[3] The cumulative scores method of combining the information from several categories into prognostic scores to arrive at predic-

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[1] Op. cit. [2] Op. cit. [3] Op. cit.

tion tables, suggested by Hornell Hart[1] and utilized in the above mentioned prediction of parole studies, revealed important differences between embezzlers and non-embezzlers. The following table illustrates these differences.

TABLE 1

PROBABLE PERCENTAGES OF VIOLATORS AND NON-VIOLATORS OF FIDELITY BONDS, BASED ON TWENTY SIGNIFICANT FACTORS FOR 10,210 CASES

Score-Point Groups	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
15 - 24.9	312	100	303	97.1	9	2.9
25 - 34.9	2,384	100	2,336	98.0	48	2.0
35 - 44.9	2,028	100	1,846	91.1	182	8.9
45 - 54.9	1,789	100	1,411	78.7	378	21.3
55 - 64.9	1,200	100	784	65.3	416	34.7
65 - 74.9	892	100	584	65.4	308	34.6
75 - 84.9	652	100	264	40.5	388	59.5
85 - 94.9	396	100	144	36.8	252	63.2
95 -104.9	244	100	50	20.5	194	79.5
105 -114.9	205	100	30	14.6	175	85.4
115 -124.9	54	100	3	5.6	51	94.4
125 -134.9	54	100	1	1.9	53	98.1
Total	10,210	100	7,756	76.0	2,454	24.0

Interpretation of Prediction Table

It will be seen that, at one extreme of the table, the bonded employees were seldom embezzlers while at the other extreme high percentages of the bonded employees were embezzlers. Table 1 may be interpreted to mean that a white-collar worker in a trusted position whose cumulative score on the twenty significant factors is between 15 and 24 points has 9.7 in 10 chances of going straight, whereas one with a score of 105 to 114 points has 8.5 in 10 chances of being an embezzler.

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[1]H. Hart, "Predicting Parole Success," Journal of Criminal Law and Criminology, XIV, No. 3 (November, 1923), 405-13.

One thousand cases, five hundred embezzlers and five hundred non-embezzlers were used to test the extent of reliability of our prognostic device.

TABLE 2

PROBABLE PERCENTAGES OF VIOLATORS AND NON-VIOLATORS OF FIDELITY BONDS, BASED ON TWENTY SIGNIFICANT FACTORS FOR 1,000 CASES

Score-Point Groups	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
15 - 24.9	25	100	24	96.0	1	4.0
25 - 34.9	71	100	67	94.0	4	6.0
35 - 44.9	76	100	64	84.2	12	15.8
45 - 54.9	103	100	74	71.9	29	28.1
55 - 64.9	115	100	71	61.7	44	38.3
65 - 74.9	165	100	93	56.4	72	43.6
75 - 84.9	102	100	44	43.1	58	56.9
85 - 94.9	96	100	31	32.3	65	67.7
95 -104.9	84	100	17	20.2	67	79.8
105 -114.9	98	100	12	12.2	86	87.8
115 -124.9	24	100	2	8.3	22	91.7
125 -134.9	41	100	1	2.4	40	97.6
Total	1,000	100	500	50.0	500	50.0

Conclusion

The major problem with which this study has been concerned appears to be answered. The consistency of the prediction tables constructed would seem to indicate that information on the twenty significant factors when combined into prognostic scores makes possible the prediction of one specific category of crime, embezzlement. Incidentally, a prediction table similar to the model constructed in this study might be of use to fidelity bonding companies to indicate the probabilities that a bond applicant will embezzle.[1]

[1]To test the validity of the prediction table for selecting embezzlers, it would be desirable to apply it to a group of bond applicants. If the predictions made on the bond applicants

In the attempt to determine the significant factors which play a role in embezzlement, a statistical photograph of the embezzler was developed in relation to certain economic and personal factors such as income, debts, occupation, age, sex, nativity, etc., and the criminal act was analyzed in terms of the social psychological analysis of a delayed act. The findings appear in the chapter summaries and they are reviewed in Chapter XI, "Summary of Findings and Conclusion."

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represented their conduct in the trusted position the method might be said to be established.

CHAPTER V

THE EMBEZZLERS' EMBEZZLEMENTS

To supplement the typological classifications attempted in the preceding chapter, a more detailed description of our embezzlers in respect to the length of time under bond during which the embezzlements occurred, the amount of embezzlements, and the excess loss is presented here.

How much do embezzlers steal from their employers? Are the amounts of bonds high enough to cover these embezzlements so that the employer does not stand to lose? Which group constitutes the greatest risk, short-time or long-time employees? These are some of the questions which we attempt to answer statistically in this chapter.

Table 8 shows the time under bond of our group of embezzlers, that is, the period between the date when the bond was issued (usually the date of employment of the bonded white-collar worker), and the date when the embezzlement was reported, that is, when the claim was filed with the bonding company (usually the date when the embezzlement was discovered and the embezzler discharged for peculations).

It will be seen that more than one-fourth (27.5 per cent) of our embezzlers' embezzlements were discovered when they had been employed more than one but less than two years. Nearly two-thirds (61.6 per cent) of our embezzlers were under bond less than three years when their peculations were found out; and only 3.1 per cent of our embezzlers were long-time trusted employees who had been in their bonded positions ten years and more.

Clearly our figures show, within the limits of the sample studied, that the first five years in a bonded position are the greatest risk years for embezzlement. More than 85 per cent of our embezzlers were employed less than five years in their bonded positions when their embezzlements were discovered.

Newspapers and bonding companies make "good" stories out of the cases of long-time trusted employees who embezzle. The

long-time trusted employee whose embezzlement is discovered is frequently a fifty to one hundred thousand dollar embezzler, who is arrested or absconds or commits suicide. Therefore, he is news. The bonding companies use the story in sales talks to sell more and larger bonds to increase their premiums, and to protect themselves from future losses by using the case of the long-time trusted employee to encourage employers to have frequent auditing to avoid cumulative embezzlements which are almost always in excess of the bond.

TABLE 8

LENGTH OF TIME UNDER BOND
2,454 EMBEZZLERS

Time under Bond in Years	Number of Embezzlers	Per Cent
Unknown	14	.6
Less than one year	352	14.4
1 - 1.9 years	674	27.5
2 - 2.9 "	485	19.7
3 - 3.9 "	363	14.8
4 - 4.9 "	216	8.8
5 - 5.9 "	136	5.5
6 - 7.9 "	81	3.3
8 - 9.9 "	56	2.3
10 -10.9 "	26	1.1
11 -14.9 "	30	1.2
15 -19.9 "	11	.4
20 -35.9 "	10	.4
Total	2,454	100.0

Although the long-time trusted employees' embezzlements come to the attention of the community more frequently, actually they constitute the smallest group (in number and percentage of the whole) of our embezzlers. However, the fairly high positive correlations between length of time under bond and amount of embezzlement, r equals .733, and length of time under bond and excess loss, r equals .685, may be interpreted to mean that in general long-time trusted employees who embezzle, embezzle the large

amounts. That is, in our study of embezzlers, as the length of time under bond increased, the amount of embezzlement and amount of excess loss increased. Embezzlements are almost always cumulative and seldom of the "grab-and-run" type.

The bonding companies are correct in stating that the greatest risk group, from the viewpoint of loss of money to the fidelity insurance company and frequently to the employer, by excess loss which the employer must stand, is the long-time trusted employee. However, from the statistical point of greatest frequency of embezzlement, the present study shows that the greatest risk group is the new employee during the first three years in the bonded position. Nearly two-thirds of our embezzlers' embezzlements occurred during the first three years of employment in the bonded white-collar position.

More than five thousand other cases of embezzlers were studied to determine the methods and techniques which embezzlers used in their embezzlements.[1] Ninety-three and five-tenths per cent (4,875) of the other embezzlements studied for technique were cumulative. About 95 per cent (2,332) of our group's embezzlements were cumulative. The significant point in the analysis of the relation of length of time in the bonded position to the embezzlement is that embezzlers seem to develop the habit of embezzling and, if their peculations are not discovered in the early years of employment, they tend to become bolder, taking larger amounts and taking them more frequently, and they become our long-time trusted-employee embezzlers.

Table 9 gives the amount of embezzlement distribution of our embezzlers.

It will be seen that more than one-fourth (28.2 per cent) of the embezzlers embezzled amounts less than one thousand dollars, more than one-half (52 per cent) embezzled between one thousand and five thousand dollars, almost one-fifth (19.3 per cent) embezzled between five thousand and one hundred thousand dollars and twelve (.5 per cent) between one hundred thousand and one million and over. One thousand nine hundred sixty-six (80.2 per cent) of our embezzlers embezzled amounts under $5,000. The average (median) amount of embezzlement was $1,745. The fore-

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[1]Chap. iv of this study, "A Typological Classification of Embezzlers Attempted, and Ten Case Studies of Embezzlers Presented."

going facts and figures link up with the point made earlier that embezzlers in the first three to five years acquire the habit of cumulatively embezzling and if not discovered become long-time embezzlers with total embezzlements in five, six, and seven place figures. The fact that four-fifths (1,966) of our embezzlers' embezzlements were under five thousand dollars might mean that a large percentage of our embezzlers were discovered before they had time to become long-time trusted employees and accumulate embezzlements of amounts over five thousand dollars. This point is further established by the facts that only 3.1 per cent (77) of our embezzlers were long-time trusted employees of ten years to thirty-five years in their bonded positions; only 3.9 per cent of the amounts of embezzlement were in excess of twenty thousand dollars; and the fairly high correlation , r equals .733, between length of time under bond and amount of embezzlement.

TABLE 9

AMOUNT OF EMBEZZLEMENT FOR 2,454 EMBEZZLERS

Amount of Embezzlement	Number of Embezzlers	Per Cent
Under $100	14	.6
$100-$499	282	11.5
$500-$999	394	16.1
$1,000-$1,999	720	29.4
$2,000-$2,999	337	13.7
$3,000-$3,999	154	6.3
$4,000-$4,999	65	2.6
$5,000-$9,999	230	9.4
$10,000-$14,999	101	4.1
$15,000-$19,999	60	2.4
$20,000-$24,999	20	.8
$25,000-$49,999	41	1.7
$50,000-$99,999	24	.9
$100,000-$499,999	8	.3
$500,000-$999,999	2	.1
$1,000,000 and over	2	.1
Total	2,454	100.0

Closely associated with the above points is the amount of excess loss, that is, the loss which the employer had to stand because the embezzlers' embezzlements were greater than their bonds.

Table 10 shows that less than one-fourth (23.4 per cent) of our embezzlers' embezzlements were within the amounts of their bonds, that is, they showed no excess loss. More than three-fourths (76.6 per cent) were in excess of their bonds and the excess losses ranged from under $100 to over $500,000. Nine hundred ninety-eight (40.7 per cent) of our group show excess losses under one thousand dollars. Almost one-fourth show excess losses between one thousand and five thousand dollars and 11.9 per cent show excess losses of five thousand to under one million dollars.

The average (median) amount of excess loss was $1,255.

Excess loss correlated with length of time under bond shows a fairly high positive relationship, r equals .685.

TABLE 10

EXCESS LOSS FOR 2,454 EMBEZZLERS

Amount of Excess Loss	Number of Embezzlers	Per Cent
None	575	23.4
Under $100	139	5.7
$100-$499	451	18.4
$500-$999	408	16.6
$1,000-$1,999	334	13.6
$2,000-$2,999	134	5.5
$3,000-$3,999	77	3.1
$4,000-$4,999	45	1.8
$5,000-$9,999	147	6.0
$10,000-$14,999	52	2.1
$15,000-$24,999	46	1.9
$25,000-$49,999	24	1.0
$50,000-$99,999	14	.6
$100,000-$499,999	6	.2
$500,000-$999,999	2	.1
Total	2,454	100.0

The significant point brought out in Table 9 is that the size of bonds sold on individual employees is too low, that is, there is not adequate coverage.

Bonding companies need to exercise more care in selecting employees for trusted positions and employers need to supervise more closely and audit more frequently.

Summary

The significant findings about our embezzlers' embezzlements may be summarized as follows:

More than four-fifths (85.2 per cent) of the embezzlers were employed less than five years in their bonded positions when their embezzlements were discovered. The first five years constitute the greatest risk period for embezzlement, from the point of view of highest frequency of occurrence.

Case studies of embezzlements analyzed for technique or method of embezzling show that more than nine-tenths of the embezzlements are cumulative, that is, the peculations are continued over varying periods of time and are seldom single and seldom discontinued during the period of employment. Embezzlers tend to acquire the habit of embezzling.

From the point of view of amount of loss, the long-time trusted employees tend to embezzle the largest sums and are considered the greatest risk by the bonding company. Seventy-seven (3.1 per cent) of our embezzlers were long-time employees.

The average (median) amount of embezzlement for our group was $1,745. Four-fifths of the embezzlers embezzled amounts under $5,000. Three and nine-tenths per cent (97) of our embezzlers' embezzlements were $20,000 to over $1,000,000. Amount of embezzlement correlated with length of time under bond showed a fairly high positive correlation, r equals .733.

More than three-fourths of the embezzlers embezzled sums in excess of the amounts of their bonds. The average (median) excess loss was $1,255. Excess loss correlated with length of time under bond revealed a fairly high positive relationship, r equals .685.

CHAPTER VII

ECONOMIC FACTORS IN THE BACKGROUND OF 2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

For the purpose of analyzing the factors associated with embezzlement both embezzlers and non-embezzlers (the failures and successes under fidelity bond) were studied to determine how embezzlers differ from non-embezzlers in respect to economic status and personal characteristics.

What is the economic status of our group of 2,454 embezzlers and 7,756 non-embezzlers? Let us look into the kinds of jobs they hold, the length of employment in previous jobs, the positions of trust held previously, the relative importance of the employees to the business in terms of the amount of bond covering their jobs, their income from the bonded position now being studied, other income if any, property owned, and debts owed.

A comparison of embezzlers and non-embezzlers in respect to certain economic factors may throw some light on, or reveal some significant factors associated with, the wish and methods of fulfilling the wish for a margin above the equilibrium of income and cost of living. It has been pointed out earlier in this study that embezzlers differ from non-embezzlers not in their latent desires, nor in the wish for money, but in the methods or plans followed of fulfilling the wish.

The comparison of our 2,454 embezzlers and 7,756 non-embezzlers by principal occupational groups is presented in Table 11. This table shows that both embezzlers and non-embezzlers were employed in the same occupations, but that the incidence of embezzlement in certain occupations was more marked than in others. An analysis of the percentage differences for the sub-classes in the category "occupation" reveals that:

Of the 2,454 embezzlers studied, 256 (10.4 per cent) held positions of authority and supervision over other employees, in the capacity of manager, superintendent, foreman, and president of commercial organizations other than banks; while of the 7,756

non-embezzlers studied, 1,045 (13.5 per cent) held comparable positions. Bonded employees holding these positions had less than their quota of embezzlers.

TABLE 11

OCCUPATIONS OF 2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Occupation	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Managers, superintendents	256	10.4	1,045	13.5
Bank employees	52	2.1	488	6.3
Outside salesmen	760	30.9	1,602	20.7
Inside salesmen	314	12.7	1,075	13.8
Commission agents, oil...	264	10.7	426	5.5
Bookkeepers, cashiers, secretaries	387	16.2	982	12.6
Ticket and travel agents.	79	3.2	532	6.9
Insurance employees	257	10.4	1,062	13.7
Fraternal society treasurers	33	1.3	384	4.9
Public officials	52	2.1	160	2.1
Total	2,454	100.0	7,756	100.0

The occupational groups of greatest risk in order of their quotas of embezzlers are presented below.

Commission agents who were mostly oil service station employees had nearly twice their quota of embezzlers. Of the 2,454 embezzlers and the 7,756 non-embezzlers studied, 264 (10.7 per cent) embezzlers and 426 (5.5 per cent) non-embezzlers were so employed.

Bonded employees working as outside salesmen had one and one-half times as many embezzlers as their quota. Outside salesmen included travelling salesmen for all kinds of commercial organizations, except oil companies and insurance companies, salesmen for office supplies, tobacco, liquor and beverages, jewelry, food products, clothing, amusement and recreational supplies, driver-collectors for dairies and laundries, salesmen for build-

ing construction concerns, etc. Of the 2,454 embezzlers, 760 (30.9 per cent) were outside salesmen, and, of the 7,756 non-embezzlers, 1,602 (20.7 per cent) were employed in this capacity.

Bookkeepers, cashiers, office employees and secretaries, except those in banks or fraternal orders, had one and one-third times their quota of embezzlers. The duties of bonded employees in this occupational group consisted of keeping accounts, receiving, depositing and paying out cash, filing and taking charge of confidential business correspondence, having knowledge of and access to the funds of the business. Of the 2,454 embezzlers and 7,756 non-embezzlers studied, 387 (16.2 per cent) embezzlers and 982 (12.6 per cent) non-embezzlers were so employed.

Public officials, for purposes of this study, in our occupational group included postmasters, tax collectors, mayors, and any city, state, or federal bonded employee. They had their quota of embezzlers. Of the 2,454 embezzlers and 7,756 non-embezzlers studied, 52 (2.1 per cent) embezzlers and 160 (2.1 per cent) non-embezzlers were public officials.

Other occupational groups had less than their quota of embezzlers.

Bank employees in the above category "occupation" included presidents, directors, tellers, cashiers, bookkeepers, runners, janitors, etc. In this study they had less than their quota of embezzlers. Of the 2,454 embezzlers, 52 (2.1 per cent) were bank employees, while 488 (6.3 per cent) of the 7,756 non-embezzlers were employed in banks or investment concerns. Bank employees in both our embezzler and non-embezzler groups are not well represented because bank bonds are frequently blanket, schedule, or position bonds. Our sample was so selected that only individual fidelity bonds and claims were included.

Insurance employees in our occupational category were outside salesmen-agents. They had less than their quota of embezzlers. There were 257 (10.4 per cent) of the 2,454 embezzlers employed in this work and 1,062 (13.7 per cent) non-embezzlers.

Fraternal society treasurers and secretaries of lodges, benefit societies, labor unions, funeral societies, etc., had less than their quota of embezzlers. Of the 2,454 embezzlers and 7,756 non-embezzlers studied, 33 (1.3 per cent) of the embezzlers and 384 (4.9 per cent) of the non-embezzlers served in this position.

Inside salesmen, over-the-counter employees selling merchandise in business organizations, had less than their quota of embezzlers. Of the 2,454 embezzlers studied, 314 (12.7 per cent) were inside salesmen and 1,075 (13.8 per cent) of the 7,756 non-embezzlers were thus employed.

Ticket and travel agents had less than their quota of embezzlers. Of our 2,454 embezzlers, 79 (3.2 per cent), and of the 7,756 non-embezzlers, 532 (6.9 per cent), were ticket and travel agents. They included railroad, bus, taxi, airplane, ocean travel and transportation employees who handled funds of their employers in the transaction of business.

In a broad classification commission agents, insurance salesmen and all travelling salesmen, collectors and driver-collectors, for all types of mercantile organizations might be combined into one group, outside employees. In such a combined group 52 per cent of our embezzlers and only 39.9 per cent of the non-embezzlers would be included. The percentage differences between embezzlers and non-embezzlers for outside employees indicate that white-collar workers employed in outside positions have more than their quota of embezzlers. Outside employees in bonded positions constitute the greatest risk group.

A comparison of the 2,454 embezzlers and the 7,756 non-embezzlers in respect to the kinds of business in which they were employed indicates that twelve of the twenty-seven classes of business activity represented in our classification of employer's business had more than their quotas of embezzlers. Those organizations which had nearly double to more than double their quotas were: real estate concerns, mercantile agencies, food products businesses which included the combined groups of meat, groceries, and dairy products, public utility companies, oil companies, storage and warehouse concerns, hospitals and colleges. All of these organizations employ business managers, clerks, cashiers, bookkeepers; many employ superintendents, presidents, treasurers, collectors, watchmen, inside and/or outside salespeople who handle the employer's money and goods.

The following table shows the percentage differences for embezzlers and non-embezzlers in the sub-classes under the category "employer's business":

TABLE 12

EMPLOYER'S BUSINESS
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Employer's Business	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	0	0.0	10	0.1
Hospital or college	12	0.5	16	0.2
Fraternal society	33	1.3	384	5.0
Liquor, beverages	30	1.2	114	1.5
Machinery, electrical, and office supplies	169	6.9	454	5.9
Household goods	55	2.3	187	2.4
Clothing, jewelry, etc...	113	4.6	651	8.4
Groceries, food products.	222	9.1	481	6.2
Tobacco	62	2.5	156	2.0
Automobiles, tires, rubber	70	2.9	366	4.7
Drugs, cosmetics	59	2.4	267	3.5
Meats	52	2.1	10	0.1
Coal, ice, wood	56	2.3	186	2.4
Oil	288	11.7	467	6.0
Theater, amusements, recreational supplies	32	1.3	111	1.4
Ticket, travel	105	4.3	539	6.9
Insurance	323	13.2	1,111	14.3
Farm or dairy products...	120	4.9	282	3.6
Real estate, apartments, hotels	87	3.5	125	1.6
Banks, investment houses	128	5.2	690	8.9
Mercantile agency	94	3.8	63	0.8
Storage-warehouse	47	1.9	45	0.6
Public utilities	66	3.2	100	1.3
Publishing house	37	1.5	272	3.5
Lumber, building construction	69	2.5	161	2.1
Shoe company	29	1.2	237	3.1
Laundry, cleaners	31	1.3	111	1.4
Government (federal, state, city)	52	2.1	160	2.1
Total	2,454	100.0	7,756	100.0

One thousand three hundred eighty-five (56.5 per cent) of our embezzlers and four thousand two hundred forty-five (54.8 per cent) of the non-embezzlers were employed outside the city in which the employer's business was located. These percentages may be interpreted to mean that employees working outside the city in which the employer's business is located had more than their quota of embezzlers. That is, employees of business organizations which are located in the same state but not the same city, a neighboring state, a far-removed state, or a foreign country when combined in one group, are a greater risk than employees working in the same city in which the employer's business is located. Table 13 presents a comparison of embezzlers and non-embezzlers in respect to location of employer's business.

TABLE 13

EMPLOYER'S BUSINESS CITY
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Location of Business City	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	28	1.1	10	0.1
Same city as principal ..	1,041	42.4	3,501	45.1
Same state, not same city	360	14.7	1,440	18.6
Neighboring state	558	22.7	1,240	16.0
Far-removed state	461	18.8	1,563	20.2
Foreign city	6	0.3	2	0.0
Total	2,454	100.0	7,756	100.0

Case studies of embezzlers revealed that the impersonal relationship of the employee to the business, laxity of supervision, infrequent auditing and checking by the employer, as well as the spatial distance the employee was removed from the employer had bearing on embezzlement.

The length of time in previous jobs held is a crude index of the economic stability of employees.

Embezzlers were more mobile in employment in previous jobs than non-embezzlers. More than one-half (57.3 per cent and 58.3 per cent) of the embezzlers remained less than five years in the

two jobs immediately preceding the bonded position which the present study is concerned with. Employees who failed to give information about the job held immediately preceding that of the present study had more than five times their quota of embezzlers. Those who failed to give any facts about the second job removed had more than three times their quota of embezzlers. This unknown sub-class under the category "Length of Time in the Two Positions Immediately Preceding the Position Occupied in the Present Study" may be significant. Failure to give information about previous employment may mean that the bond applicant's honesty record would not bear investigation, and fear that his bond might be declined, which would result in unemployment. Table 14 shows that embezzlers in general held their previous jobs for shorter periods of time than non-embezzlers.

The most significant comparison in Table 15 is in the sub-class "unknown." Bond applicants who failed to give information on the question regarding being bonded in previous jobs had seven times their quota of embezzlers. The same inference might be drawn about the unknown sub-class under the category "Number of Times Bonded" as for Table 14 category. It is highly probable that those applicants who fail to give information which has bearing on their economic stability and especially on their honesty record are poor risks.

One thousand six hundred eight (65.6 per cent) of the embezzlers were bonded for amounts between $500 and $1,000, whereas less than one-half (46.2 per cent) of the non-embezzlers were bonded for like amounts. More than 25 per cent of the non-embezzlers were bonded for amounts between $5,000 and $20,000; only 10 per cent of the embezzlers were bonded for these amounts. Table 16 shows the relative percentages in the sub-classes for embezzlers and non-embezzlers under the category "Amount of Bond."

The average median amount of bond for non-embezzlers was about twice as high as the average for embezzlers, that is, $3,146 for non-embezzlers and $1,625 for embezzlers.

The amount of bond appears to be a crude index of the employee's economic status and relative importance in the business group. In other words, the bonded employee has as one index of his importance to the business the amount of bond which his job carries.

A social psychological analysis of embezzlement revealed

TABLE 14

LENGTH OF TIME IN THE TWO POSITIONS IMMEDIATELY PRECEDING THE POSITION OCCUPIED IN THE PRESENT STUDY
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Years in Previous Jobs	Embezzlers				Non-Embezzlers			
	1st Job[a]		2nd Job[b]		1st Job[a]		2nd Job[b]	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Unknown	258	10.5	360	14.8	154	2.0	349	4.5
No previous job	96	3.9	357	14.6	1,486	19.2	2,373	30.6
Less than 1 year	311	12.7	452	18.5	983	12.7	1,338	17.3
1 - 1.9 years	369	15.0	406	16.6	954	12.3	1,037	13.4
2 - 2.9 "	274	11.1	231	9.5	591	7.6	722	9.3
3 - 3.9 "	265	10.8	214	8.8	643	8.3	651	8.4
4 - 4.9 "	188	7.7	121	4.9	408	5.3	361	4.7
5 - 5.9 "	171	7.0	113	4.7	842	10.8	498	6.4
6 - 7.9 "	203	8.3	86	3.1	517	6.7	203	2.6
8 - 9.9 "	104	4.2	41	1.8	274	3.5	86	1.1
10 -12.9 "	111	4.5	50	2.0	461	5.9	93	1.2
13 -14.9 "	20	0.8	10	0.4	82	1.1	13	0.2
15 -19.9 "	61	2.6	8	0.3	251	3.2	22	0.3
20 -24.9 "	10	0.4	2	0.0	56	0.7	7	0.0
25 -29.9 "	8	0.3	0	0.0	28	0.4	0	0.0
30 -39.9 "	2	0.1	0	0.0	18	0.2	3	0.0
40 -59.9 "	2	0.1	0	0.0	8	0.1	0	0.0
61 years	0	0.0	1	0.0	0	0.0	0	0.0
64 "	1	0.0	2	0.0	0	0.0	0	0.0
Total..	2,454	100.0	2,454	100.0	7,756	100.0	7,756	100.0

[a]First job means the position occupied immediately preceding the position held in the present study.

[b]Second job means the position held before the job immediately preceding that of the present study.

that among the desires which individuals living and working in groups have, is the desire to feel important in some group. This desire may be satisfied in a variety of ways and in a number of groups. Employees in positions of trust may satisfy the desire to feel important in the business organization by successfully

TABLE 15

NUMBER OF TIMES BONDED
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Times Bonded	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	287	11.7	129	1.7
First time	1,044	42.5	4,254	54.8
Second time	874	35.6	2,676	34.5
Third time	188	7.7	521	6.7
Fourth time	48	2.0	172	2.2
Fifth time	13	0.5	6	0.1
Total	2,454	100.0	7,756	100.0

TABLE 16

AMOUNT OF BOND
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Amount of Bond in Dollars	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	0	0.0	6	0.1
Under $500	78	3.2	28	0.4
$500-$999	512	20.9	1,108	14.3
$1,000-$1,999	1,018	41.5	2,442	31.5
$2,000-$4,999	545	22.2	2,011	25.9
$5,000-$9,999	203	8.3	1,333	17.2
$10,000-$14,999	60	2.4	484	6.2
$15,000-$19,999	6	0.2	155	2.0
$20,000-$24,999	6	0.2	64	0.8
$25,000-$49,999	12	0.5	96	1.2
$50,000-$99,999	9	0.4	20	0.3
$100,000-$499,999	3	0.1	8	0.1
$500,000-$999,999	2	0.1	1	0.0
Total	2,454	100.0	7,756	100.0

"taking the role of another,"[1] by working for the interests of the

[1] G. H. Mead, Mind, Self and Society (Chicago: The University of Chicago Press, 1934), p. 254.

employer as if the business were his own, by feeling that the business needs his services, and by recognition of his services from his family or employer, or community. Non-embezzlers satisfy the desire to feel important in a group in these ways.

Embezzlers seek to satisfy the desire to feel important in a group, usually in terms of money which they embezzle to buy this feeling of importance. The embezzler is unable to fulfill the wish in the business group, and attempts to satisfy it sometimes by gambling on "long shots," betting large sums of the money borrowed from his employer to gain the admiration of the little-fellow gamblers; sometimes by spending the borrowed money on women and expensive entertainment of fairweather friends to gain the feeling of importance by creating the impression that he is wealthy; and sometimes by using the money to start another business of which he is the owner. In brief, he seeks to satisfy the desire to feel important in some group by borrowing his employer's money to give him the margin above the equilibrium of income and cost of living to buy status outside his business group.

The fact that embezzlers were bonded for small amounts may be a factor in partial explanation of their conduct.[1]

More than four times as many embezzlers as non-embezzlers failed to answer the question, "Have you ever been refused a bond, or ever defaulted under bond?" The relative percentages in the "unknown" sub-class of this category are important in relation to the inference which might be drawn about the applicant's honesty record in previous jobs.

The following table shows the comparison of embezzlers and non-embezzlers for this factor:

TABLE 17

EVER DECLINED A BOND OR DEFAULTED UNDER BOND
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Ever Declined Bond	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	274	11.2	204	2.6
Yes	3	.1	29	.4
No	2,177	88.7	7,523	97.0
Total	2,454	100.0	7,756	100.0

[1]It is recommended that the amount of bond be increased on employees in trusted positions to stimulate that feeling of importance in the business group.

The reliability of the information on the above category, in the writer's opinion, is questionable. By answering "yes" the bond applicant prejudices his chances of being bonded again, and his opportunity for employment. The question[1] prompts the answer "No."

The following table shows the relative percentages of embezzlers and non-embezzlers in the sub-classes under the category "Ever Bankrupt":

TABLE 18

BANKRUPT
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Ever Bankrupt	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	221	9.0	195	2.5
Yes	51	2.1	37	.5
No	2,182	88.9	7,524	97.0
Total	2,454	100.0	7,756	100.0

The significant comparison in the above table is found in the sub-class "unknown." Those who did not answer the question "Have you ever been bankrupt?" had nearly four times their quota of embezzlers. The question prompts the answer "No," because it is likely that an affirmative might prejudice the bond applicant's chances of obtaining a bond and employment. The information received on this question may not be reliable.

Table 19 indicates the relative percentages of embezzlers and non-embezzlers in the sub-classes under the category "Salary Basis."

Employees working on a commission basis had more than double their quota of embezzlers. More than one-half of the non-embezzlers were employed on a fixed salary basis. The monthly income of employees working on a commission basis is less certain. Fluctuations in their incomes are influenced by such factors as

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[1] It is important to the bonding company to uncover this information but it is recommended that it be obtained from past employers.

seasonal demand and supply, open competition, shipping and transportation facilities, territory, etc. Commission employees represent a greater risk of embezzlement than fixed salaried employees, because of the uncertainty of achieving even an equilibrium between cost of living and income.

TABLE 19

SALARY BASIS
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Salary Source	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	185	7.5	136	1.8
Commission	999	40.7	1,519	19.6
Salary	1,003	40.9	4,042	52.1
Salary and commission ..	191	7.8	1,209	15.5
Salary and expenses	20	.8	518	6.8
Commission and drawing account	6	.3	135	1.7
Salary and maintenance..	15	.6	81	1.0
Cancellations	4	.2	0	0.0
Hour basis	21	.8	116	1.5
Fees	10	.4	0	0.0
Total	2,454	100.0	7,756	100.0

A comparison of monthly incomes received by embezzlers and non-embezzlers is made in Table 20.

The relative percentages in the sub-class "unknown" show that employees who failed to state their monthly income from the bonded position had more than three times their quota of embezzlers. Analysis of Table 11, "Occupations," revealed that more than 50 per cent of the embezzlers were working as outside employees, that is, outside salesmen, insurance agents and commission oil agents. Outside employees frequently work on a commission basis and monthly income varies depending on whether the employee had a good month or a poor month. Since nearly 50 per cent of the embezzlers (specifically 48.7 per cent) are represented in the sub-class "unknown," it might be correctly inferred that nearly all of these were paid on a commission basis. Analysis of Table 19, "Salary Basis," substantiates this inference.

TABLE 20

MONTHLY INCOME FROM BONDED POSITION
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Monthly Salary	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	1,196	48.7	1,108	14.2
None	6	.2	115	1.5
Under $100	297	12.1	715	9.2
$100-$199	762	31.1	3,046	39.3
$200-$299	148	6.0	1,931	25.0
$300-$399	28	1.1	551	7.1
$400-$499	10	.4	156	2.0
$500-$599	4	.2	56	.7
$600-$699	0	.0	24	.3
$700-$799	2	.1	28	.4
$800-$899	0	.0	11	.1
$1,000	0	.0	7	.1
$1,200	0	.0	4	.1
$1,300	0	.0	0	.0
$1,500	0	.0	2	.0
$1,600	0	.0	2	.0
$5,000	1	.1	0	.0
Total	2,454	100.0	7,756	100.0

Embezzlers on the average received lower monthly incomes than non-embezzlers. The average (median) monthly income from the bonded position for embezzlers was $141.80; for non-embezzlers $211.41. The bulk of our embezzlers earned $100 a month or $1,200 a year, whereas the monthly income of non-embezzlers which appeared most frequently in the sample studied was $200. Nearly 75 per cent of the embezzlers were married (Table 29) and were supporting families on an annual income of about $1,200. This figure is slightly above the median family income in the United States in 1935-1936 which was $1,160.[1]

Table 21 shows the percentage distribution of embezzlers

[1] U. S. National Resources Committee, Consumer Incomes in the United States: Their Distribution in 1935-36 (Washington: Government Printing Office, August, 1938), p. 19.

and non-embezzlers in respect to income derived from some source in addition to that from the bonded position.

TABLE 21

INCOME OTHER THAN FROM BONDED POSITION
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Kind of Other Income	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	297	12.1	163	2.1
None	1,872	76.3	5,016	64.7
Real estate	47	1.9	629	8.1
Securities	16	.7	655	8.4
Other business	174	7.1	1,113	14.4
Pension	22	.8	133	1.7
Profits	12	.5	30	.4
Relatives	6	.3	17	.2
Commission	8	.3	0	.0
Total	2,454	100.0	7,756	100.0

The significant point revealed in the above table by a comparison of the percentages in the sub-classes is that one-third of the non-embezzlers received additional income whereas only about one-tenth of the embezzlers received any income other than from the bonded position. The unknown sub-class appears to be important in that those who failed to answer the question on "source of other income" had nearly six times their quota of embezzlers.[1]

Two thousand twenty-five of the non-embezzlers (26.1 per cent) received monthly other income between $100 and $300 whereas only 95 (3.9 per cent) of the embezzlers received other income of comparable amounts each month. The relative percentages for the sub-classes under this category are shown in Table 22.

The average (median) monthly other income for the 170 embezzlers (7 per cent) who received an income in addition to that

[1] It is recommended that the bonding company investigate more searchingly those applicants who do not answer this question to discover those who are engaged in a business in need of capital which might be borrowed from the employer without his knowledge.

from their bonded position was $81.55 as compared with $247.55, the median monthly other income of 2,517 (35.4 per cent) of the non-embezzlers.

TABLE 22

MONTHLY OTHER INCOME
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Amount of Monthly Other Income	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	411	16.7	353	4.6
None	1,873	76.3	4,886	63.0
Under $50	61	2.5	373	4.9
$50-$99	38	1.5	602	7.8
$100-$199	36	1.5	1,157	14.9
$200-$299	21	.9	266	3.4
$300-$399	4	.2	63	.8
$400-$499	2	.1	34	.4
$500-$999	8	.3	18	.2
$1,000-$1,299	0	.0	2	.0
$5,000	0	.0	2	.0
Total	2,454	100.0	7,756	100.0

The facts about income in our analyses of Tables 18, 19, 20, 21, and 22 indicate that the economic pressure, as measured by income received, was more severe on our embezzlers. Non-embezzlers on the average were paid fixed salaries about double the monthly income earned by embezzlers; more than one-third had additional monthly income from other sources, as compared with less than one-tenth of our embezzlers who received income in addition to that earned in the bonded position. Non-embezzlers in general appear to be more financially secure than embezzlers. In so far as income is a measure of success, our non-embezzlers were more successful in the business group than our embezzlers.

Table 23 shows the relative percentages of embezzlers and non-embezzlers in the sub-classes under the category "Value of Property Owned."

Almost 50 per cent (1,146) of the embezzlers owned property which was valued under $1,000, whereas only a little more

TABLE 23

VALUE OF PROPERTY OWNED
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Value of Property	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	397	16.1	308	3.9
None	626	25.5	1,991	25.7
Under $100	4	.2	7	.1
$100-$499	555	22.6	761	9.8
$500-$999	591	24.1	2,147	27.7
$1,000-$1,499	234	9.5	940	12.1
$1,500-$2,499	37	1.5	745	9.6
$2,500-$4,999	2	.1	435	5.6
$5,000-$9,999	4	.2	260	3.4
$10,000-$19,999	4	.2	138	1.8
$20,000-$24,999	0	.0	17	.2
$25,000-$29,999	0	.0	7	.1
Total	2,454	100.0	7,756	100.0

than one-third (2,915) of the non-embezzlers owned property valued so low. About 10 per cent (271) of the embezzlers owned property worth $1,000 to $2,500 whereas nearly 25 per cent (1,685) of the non-embezzlers owned property of like value. Less than 1 per cent (10) embezzlers owned property valued at $2,500 and more, as compared with 11.1 per cent (857) of the non-embezzlers who owned property worth $2,500 and more. The property of embezzlers consisted for the most part of house furnishings and inexpensive automobiles. Since nearly 50 per cent of the embezzlers had property valued under $1,000 and nearly 60 per cent owned property valued under $2,500, and about 25 per cent had no property of any real value, it is probable that few owned their own homes or had assets which might be turned into capital to meet an emergency or a felt need. The sub-class "unknown" in this category is significant in that those who failed to state the value of property owned had more than four times their quota of embezzlers.[1]

[1]It is recommended that the bonding company investigate those who do not answer this question on the bond application form to discover if there is any reason, such as mortgaged property or a business needing capital, for failure to answer this question.

Table 24 shows the relative percentages for embezzlers and non-embezzlers in the sub-classes under the category "Debts."

TABLE 24

DEBTS
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Amount of Debts	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	563	22.9	503	6.5
None	1,227	50.0	1,986	25.6
Under $100	55	2.3	53	.7
$100-$499	199	8.1	1,830	23.7
$500-$999	91	3.7	2,103	27.1
$1,000-$1,499	53	2.2	542	6.9
$1,500-$2,499	72	2.9	364	4.7
$2,500-$4,999	112	4.6	201	2.6
$5,000-$9,999	54	2.2	117	1.5
$10,000-$24,999	20	.8	41	.5
$25,000-$49,999	8	.3	2	.0
$50,000-$99,999	0	.0	12	.2
$100,000-$199,999	0	.0	2	.0
Total	2,454	100.0	7,756	100.0

It will be noted that nearly 70 per cent (5,267) of the non-embezzlers reported debts whereas less than 30 per cent (664) of the embezzlers reported debts. More than 50 per cent (3,933) of the non-embezzlers reported debts under $1,000 as compared with 11.8 per cent (200) of the embezzlers who reported debts of like amounts. These percentage differences may mean that the non-embezzlers' credit was good and because of their higher incomes they could assume such debts as no great burden, retiring them periodically. On the other hand, embezzlers may have failed to answer this question truthfully, lest the ratio between income and debts indicate "poor risk" with the attendant possibilities of not being employed, close supervision, and careful auditing by a cautious employer. The two sub-classes "unknown" and "none" had more than three times and double their quotas of embezzlers, respectively, and would seem to warrant investigation by the

bonding company.[1]

Of the embezzlers 661 (30 per cent) who reported debts, the average (median) amount was $628.55 as compared with the median amount of debt, $[illegible] 45, for non-embezzlers of whom there were 5,287 (nearly 70 per cent). The average amount of debt for embezzlers was higher than for non-embezzlers.

Summary

The outstanding facts in the foregoing analysis of 2,454 embezzlers and 7,758 non-embezzlers are:

Outside employees, in the positions of commission oil agents, traveling salesmen, and insurance agents, were the poorest risks. More than 50 per cent of the embezzlers were employed in such positions.

The kinds of businesses having more than their "quotas" of embezzlers were oil, food products, public utilities, real estate, mercantile and storage companies. These businesses employ a high percentage of outside salesmen-collectors who are poor risks, therefore making the businesses in which they are employed poor risks.

Although employees outside the city in which the employer's business was located had more than their quota of embezzlers, case studies of embezzlers revealed that the socio-economic distances between employees and employers, as well as the spatial distances which employees were removed from employers, have bearing on embezzlement.

More than half the embezzlers remained less than five years in the two positions immediately preceding the bonded position with which the present study is concerned. Bond applicants who failed to give any information on their previous employment in the job immediately preceding the position of this study had five times their quota of embezzlers. Those employees who failed to report on the second job removed from the bonded position studied here had more than three times their quota of embezzlers. In general, embezzlers were more mobile in their previous jobs than non-embezzlers.

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[1] It is recommended that bond applicants' "Debts" be checked with credit agencies.

Those employees who failed to answer the question regarding being bonded in previous jobs had seven times their quota of embezzlers. It is probable that the honesty record in past employment of this group was not clear.

The average amount of bond for non-embezzlers was nearly twice the average for embezzlers. The bulk of embezzlers (62.4 per cent) were bonded for amounts ranging from $500 to $1,000, whereas the bulk of non-embezzlers (74.6 per cent) had bonds between $1,000 and $10,000. There appears to be some relationship between the feeling of importance to the business group, as measured in part by the amount of the bond, and "going straight."

Bond applicants who failed to answer the question relating to refusal of, or default under, a bond had more than four times their quota of embezzlers. It is probable that this group had been guilty of peculations in the past and failed to answer in the affirmative because of fear of being refused a bond and not being employed.

Almost half the embezzlers were paid on a commission basis and more than half the non-embezzlers received fixed salaries. Commission employees represent a greater risk of embezzlement than salaried employees.

Non-embezzlers had average monthly incomes from their bonded positions of nearly twice the average of embezzlers.

About one-third of the non-embezzlers had additional monthly income, and only about one-tenth of the embezzlers had other income. The average monthly other income for non-embezzlers ($247.55) was nearly three times the average monthly other income ($81.55) of embezzlers.

Non-embezzlers owned property of greater value than embezzlers.

Nearly 70 per cent of the non-embezzlers and only 30 per cent of the embezzlers owed debts. The average amount of debt for embezzlers was higher than for non-embezzlers.

The principal findings in this chapter may be summarized as follows: In general, our embezzlers were bonded for less, had smaller incomes, higher debts, and lower property value than the non-embezzlers.

CHAPTER VIII

PERSONAL FACTORS IN THE BACKGROUND OF 2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

To better understand the white-collar criminal and that kind of criminal behavior called embezzlement, we turn now to a study of the personal background of embezzlers compared with that of non-embezzlers. Is embezzlement a crime particularly associated with males? Is embezzlement in the United States associated most frequently with the foreign-born? Is the highest percentage of embezzlers found among single persons? Are embezzlers young (under twenty-one years) or old (over fifty years) offenders? Do they have others dependent on them? These are some of the questions we seek answers to in a statistical photograph of the embezzler with a background of personal and social factors, to superimpose on the quantitative picture of him in his economic background which has already been enlarged in the preceding chapter.

Two thousand three hundred seventy-two (96.7 per cent) of our embezzlers, and six thousand one hundred ninety-seven (79.9 per cent) of the non-embezzlers were male.

Table 25 shows that males had nearly one and one-fourth times their quota of embezzlers.

TABLE 25

SEX
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Sex	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	10	0.4	0	0.0
Male	2,372	96.7	6,197	79.9
Female	72	2.9	1,559	20.1
Total	2,454	100.0	7,756	100.0

Statistics based on arrest show that about ten times as many males as females are arrested for embezzlement.[1] But statistics of arrests for embezzlement are not a reliable index of the frequency or extent of this crime for either sex. In general, embezzlers are violators of fidelity bonds and the bonding company is more interested in salvage than punishment. Arrest, indictment, conviction, and imprisonment make salvage unlikely for the bonding company. Embezzlers are usually known persons who have some social or political standing in the community. They have had no previous criminal record, else they would not have been bonded in positions of trust. Through influence, or by friends and relatives promising to reimburse the bonding company, leniency may be obtained and frequently they are not arrested and prosecuted. In general women are shown more leniency than are men.

It is well known that the proportion of the sexes varies in the different regional divisions of the United States. In 1930, in the general population of the United States there were 102.5 males per 100 females.[2] But the relative variation between the gainfully employed males and females, twenty-one years of age and over, is even more significant in the study of the "Sex" factor in respect to embezzlement. In the United States, according to the 1930 Census, about three-fourths of the gainfully employed, twenty-one years of age and over, were males.[3]

In this study the control group of 7,756 non-embezzlers is assumed to be representative of the gainfully employed in white-collar bonded positions in the general population.

Since nearly three-fourths of the total gainfully employed, twenty-one years of age and over, in the general population of the United States are males, the large excess of males in the sample of embezzlers is not counter to expectation.

This study confirms previous studies and opinions that embezzlement is more frequently associated with males than with females. In so far as our sample is representative, the present

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[1] E. H. Sutherland, Principles of Criminology (Philadelphia: J. B. Lippincott, 1934), p. 92.

[2] U. S. Bureau of the Census, Fifteenth Census of the United States: 1930, Abstract (Washington: Government Printing Office, 1933), p. 91.

[3] Ibid., p. 335.

study shows that for every female embezzler there are thirty-three male embezzlers.

Assuming that our control group, non-embezzlers, is representative of the gainfully employed, in trusted positions, of voting age, in the population of the United States, the chances of a male being an embezzler are considerably higher than for a female.

The high rate for males may be explained by the high percentage of males, twenty-one years of age and over, gainfully employed in the United States. Few women are exposed to the risk of embezzlement, because in the first place only a small percentage, less than 25 per cent, of the females twenty-one years of age and over in the population of the United States are gainfully employed, and in the second place only a very small fraction of those employed hold positions of trust.

The "Color" factor in a study of embezzlers in the United States would not seem to be very significant. Negroes for the most part are not employed as white-collar workers and the number of Chinese and Japanese holding positions of trust is so small that, like Negroes, they are not represented in this study to an extent which would warrant comparison with white persons.

Table 26 shows the relative percentages of embezzlers and non-embezzlers in respect to "Color."

TABLE 26

COLOR
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Color	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	32	1.3	2	0.0
White	2,413	98.3	7,692	99.2
Black	3	.1	62	.8
Yellow	6	.3	0	.0
Total	2,454	100.0	7,756	100.0

The above table shows a large excess of white bonded employees and a high percentage (98.3 per cent) of white persons who were embezzlers. However, white persons had less than their

quota and Mongolians had more than their quota of embezzlers.

Statistics based on arrests, convictions, and commitments to prisons for all offenses show the frequency for Negroes to be about three times that of native-born white persons in 1930.[1] However, on a specific type of crime such as embezzlement, these statistics do not present the true picture. Negroes do not embezzle because generally they do not hold bonded white-collar positions, therefore they are not exposed to the risk of embezzling. This point is further established by the economic status of Negroes as measured by average income, which is considerably lower than that of white persons. The mean income of non-relief white families in both urban and rural southern communities in 1935-1936 was $1,100, approximately three times that ($480) of non-relief Negro families.[2]

Three hundred and ten (12.6 per cent) of our embezzlers and seven hundred and eleven (9.2 per cent) of our non-embezzlers were foreign-born.

Of the gainfully employed twenty-one years of age and over in the United States in 1930, about 43 per cent were native-born white persons and about 17 per cent were foreign-born white persons.[3]

The large excess of native-born in the embezzler population of this study of one specific type of crime, embezzlement, is not surprising. Embezzlement is an economic crime, a crime of dishonesty without violence, a crime against property in which an employee converts to his own use the property of another (the employer) legally entrusted to him by virtue of his employment. The trusted employees, who are the risk group for this crime, are generally not immigrants. Certain recent studies show that counter to opinion foreign-born persons in general contribute less than their quota to the criminal population of the United States.[4]

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[1] Sutherland, op. cit., p. 140.

[2] U. S. National Resources Committee, Consumer Incomes in the United States: Their Distribution in 1935-36 (Washington: Government Printing Office, 1938), p. 28.

[3] U. S. Bureau of the Census, Fifteenth Census of the United States, p. 335.

[4] T. Sellin, Culture Conflict and Crime (New York: Social Science Research Council, 1938), Bulletin 41; A. C. Bowler, Report on Crime and the Foreign Born, National Committee on Law

But in so far as our non-embezzler control group is representative of the gainfully employed, of voting age, in white-collar positions as trusted employees, in the general population of the United States, foreign-born white-collar trusted workers had about one and one-third times their quota of embezzlers, and native-born of similar economic status had less than their quota.

Table 27 compares embezzlers with non-embezzlers in respect to "Nativity."

TABLE 27

NATIVITY
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Nativity	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	96	3.9	33	.4
Native-born	2,048	83.5	7,012	90.4
Foreign-born	310	12.6	711	9.2
Total	2,454	100.0	7,756	100.0

Although the largest number and highest proportion of white-collar workers are native-born white persons, and the foreign-born are represented less frequently in trusted positions, within the limits of the sample studied, the chances of a foreign-born bonded person embezzling are considerably greater than for a native-born bonded employee.

A number of illuminating facts are brought out in Table 28 which shows a comparison of embezzlers with non-embezzlers by age groups.

Criminologists agree that age is one of the important factors associated with the frequency and types of crime. The average age of those committed to prisons for embezzlement in 1930 was thirty-five years.[1] It has already been pointed out that statistics of commitments to prisons do not furnish reliable nor adequate facts on the crime, embezzlement. The average (median)

Observance and Law Enforcement, Publications No. 10 (Washington: Government Printing Office, 1932); Sutherland, op. cit., pp. 113-14.

[1]Sutherland, op. cit., p. 88.

age of the embezzlers in the present study was 32.1 years as compared with 35.5 years, the median age of our non-embezzlers, the control group.

An analysis of the relative percentages in the sub-classes of Table 28 shows that bonded employees had less than their quota of embezzlers in the age group 35 to 39.9 years, but more than 60 per cent of our embezzlers were under 35 years old. In all age groups over 35 years, except in the class 50-54.9 years in which they had one and one-fourth times their quota, white-collar bonded persons had less than their quota of embezzlers. Clearly this study shows that the young-adult period of life, 25 to 35 years, is the greatest risk period for embezzlement. More than three times as many embezzlers, 76.9 per cent, of the 2,454 cases studied, were under forty years of age as were over forty.

TABLE 28

AGE
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Age	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	56	2.3	23	.3
Under 20 years.....	32	1.3	70	.9
20-24.9 "	361	14.7	683	8.8
25-29.9 "	593	24.2	1,462	18.8
30-34.9 "	502	20.4	1,453	18.7
35-39.9 "	399	16.3	1,805	23.3
40-44.9 "	246	10.0	1,203	15.5
45-49.9 "	111	4.5	656	8.5
50-54.9 "	78	3.2	220	2.8
55-59.9 "	48	2.0	121	1.6
60-64.9 "	14	.6	30	.4
65-69.9 "	10	.4	20	.2
70-74.9 "	0	.0	0	.0
75-79.9 "	4	.1	6	.1
80-84.9 "	0	.0	4	.1
Total	2,454	100.0	7,756	100.0

On the average our non-embezzlers were older than our embezzler group. It will be seen from a study of Table 28 that an appreciably greater percentage of our non-embezzlers than embezzlers were over forty years of age, nearly 30 per cent of the non-embezzlers as compared with about 20 per cent of the embezzlers. More than 40 per cent of our embezzlers were under thirty years of age as compared with our non-embezzlers who had less than 30 per cent under thirty years.

The large excess of non-embezzlers forty years of age and older represents that group of white-collar trusted employees who withstand the socio-economic pressures or overcome the "halts" and achieve an equilibrium or a margin above the equilibrium of income and cost of living, in harmony with the conduct norms of the business group and the community, and pass through the risk period into the older age groups successfully. The large excess of embezzlers in the age groups under thirty-five years represents that group of trusted employees who were unable to overcome the obstacles in the way of satisfying the wish for more money in ways economically and socially desirable and therefore embezzled during the age period of greatest risk.

In the business world, it is fairly generally agreed that greatest efficiency and proof of value of employees to the business organization occur in the age groups under forty years. Most businesses in which bonded employees are employed have a larger proportion of their trusted employees who are over forty years of age than employees who are under twenty-five years old, although the highest frequency of employees is found in the ages twenty-five to forty. The present study bears out these facts.

It is to be expected that the age group twenty-five to forty years would include the largest number of white-collar trusted employees because of the experience, training, and education necessary to obtain trusted positions, and because employers' experience shows that the most productive and efficient work age period in the business world is the young-adult period. Because of the large excess of white-collar bonded workers in the age interval twenty-five to forty years, it is not surprising that this study should show the greatest risk period for embezzlement to be in the young-adult age groups.

The highest percentages of the gainfully employed population of the United States are found in the young-adult age groups,

20-24 (65.7 per cent), 25-29 (63.7 per cent), 30-34 (61 per cent), 35-39 (61 per cent), and 40-44 (61.1 per cent),[1] which further supports our conclusion that the young-adult period appears to be the greatest risk age group for embezzlement.

The following table compares the marital status of embezzlers and non-embezzlers:

TABLE 29

MARITAL STATUS
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Marital Status	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	28	1.1	14	.2
Single	566	23.1	2,601	33.5
Married	1,817	74.0	4,624	59.6
Widowed	30	1.2	286	3.7
Divorced	11	.5	172	2.2
Divorced-Remarried ...	2	.1	59	.8
Total	2,454	100.0	7,756	100.0

Statistics based on commitments to prisons in the United States show that married males have a lower commitment rate than single males in all age groups, except under twenty years of age, and divorced persons have a higher rate of crimes than married or single persons.[2] But this finding does not apply to one specific kind of crime, embezzlement.

The Courts tend to be lenient with married persons who have dependents, and the bonding companies are mainly concerned with salvage. Thus a large number of embezzlers are never arrested or committed to prisons for these reasons.

The present study of embezzlement, based on the records of a fidelity bonding company, shows that about three times as many married as single persons are embezzlers. Single persons had less than their quota of embezzlers, whereas married persons

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[1] U. S. Bureau of the Census, Fifteenth Census of the United States, p. 335.

[2] Sutherland, op. cit., p. 155.

had one and one-fourth times their quota.

The sample yielded few embezzlers and non-embezzlers in the sub-classes "divorced," "widowed," "divorced-remarried." Although the sample is small, bonded employees in these sub-classes of "Marital Status" had less than their quotas of embezzlers.

Embezzlement, it has been stated before, is an economic crime and the economic pressures are undoubtedly more severe on married than on single persons. The failure of income to reach an equilibrium with the cost of living for the needs of a family may explain in part the large excess of married persons in the embezzler ranks.

Married persons have a higher frequency of embezzlement and are a greater risk than single persons. The chances that a single person employed in a bonded position will embezzle are considerably less than for a married person.

Clearly our figures bear out the proposition that married persons contribute considerably more than their share to the crime embezzlement.

In the study of one category of crime or one specific type of criminal behavior, such as embezzlement, marital status appears to be one of the significant factors associated with it. However, the writer believes that the relationship between marital status and a specific type of criminal behavior, embezzlement in this study, should not be projected into a generalization about criminality as a whole.

A comparison of embezzlers with non-embezzlers in relation to the number of dependents which they supported is presented in Table 30.

The size of the family or the number of dependents appears to be a significant factor in the study of embezzlement. Number of dependents is related to family income in that the ratio of income to cost of living is frequently associated with the wish for more money to attain either an equilibrium or a margin above the equilibrium of income and cost of living. The wish is not fulfilled or is fulfilled in a socially approved manner by non-embezzlers. It is fulfilled by the embezzler group in violation of the criminal law of embezzlement.

Bonded employees in the sub-classes of the category number of "Dependents" for "unknown," "two," "four," and for most of the sub-classes from seven to sixteen had more than their quota of

20-24 (65.7 per cent), 25-29 (63.7 per cent), 30-34 (61 per cent), 35-39 (61 per cent), and 40-44 (61.1 per cent),[1] which further supports our conclusion that the young-adult period appears to be the greatest risk age group for embezzlement.

The following table compares the marital status of embezzlers and non-embezzlers:

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2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Marital Status	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	28	1.1	14	.2
Single	566	23.1	2,601	33.5
Married	1,817	74.0	4,624	59.6
Widowed	30	1.2	286	3.7
Divorced	11	.5	172	2.2
Divorced-Remarried ...	2	.1	59	.8
Total	2,454	100.0	7,756	100.0

Statistics based on commitments to prisons in the United States show that married males have a lower commitment rate than single males in all age groups, except under twenty years of age, and divorced persons have a higher rate of crimes than married or single persons.[2] But this finding does not apply to one specific kind of crime, embezzlement.

The Courts tend to be lenient with married persons who have dependents, and the bonding companies are mainly concerned with salvage. Thus a large number of embezzlers are never arrested or committed to prisons for these reasons.

The present study of embezzlement, based on the records of a fidelity bonding company, shows that about three times as many married as single persons are embezzlers. Single persons had less than their quota of embezzlers, whereas married persons

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[1] U. S. Bureau of the Census, Fifteenth Census of the United States, p. 335.

[2] Sutherland, op. cit., p. 155.

had one and one-fourth times their quota.

The sample yielded few embezzlers and non-embezzlers in the sub-classes "divorced," "widowed," "divorced-remarried." Although the sample is small, bonded employees in these sub-classes of "Marital Status" had less than their quotas of embezzlers.

Embezzlement, it has been stated before, is an economic crime and the economic pressures are undoubtedly more severe on married than on single persons. The failure of income to reach an equilibrium with the cost of living for the needs of a family may explain in part the large excess of married persons in the embezzler ranks.

Married persons have a higher frequency of embezzlement and are a greater risk than single persons. The chances that a single person employed in a bonded position will embezzle are considerably less than for a married person.

Clearly our figures bear out the proposition that married persons contribute considerably more than their share to the crime embezzlement.

In the study of one category of crime or one specific type of criminal behavior, such as embezzlement, marital status appears to be one of the significant factors associated with it. However, the writer believes that the relationship between marital status and a specific type of criminal behavior, embezzlement in this study, should not be projected into a generalization about criminality as a whole.

A comparison of embezzlers with non-embezzlers in relation to the number of dependents which they supported is presented in Table 30.

The size of the family or the number of dependents appears to be a significant factor in the study of embezzlement. Number of dependents is related to family income in that the ratio of income to cost of living is frequently associated with the wish for more money to attain either an equilibrium or a margin above the equilibrium of income and cost of living. The wish is not fulfilled or is fulfilled in a socially approved manner by non-embezzlers. It is fulfilled by the embezzler group in violation of the criminal law of embezzlement.

Bonded employees in the sub-classes of the category number of "Dependents" for "unknown," "two," "four," and for most of the sub-classes from seven to sixteen had more than their quota of

embezzlers.

TABLE 30

DEPENDENTS
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Number of Dependents	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	121	4.9	114	1.5
None	489	19.9	1,845	23.7
1	521	21.2	1,781	22.9
2	557	22.7	1,569	20.2
3	326	13.3	1,440	18.6
4	217	8.8	557	7.2
5	109	4.4	212	2.7
6	32	1.3	123	1.6
7	20	.8	57	.7
8	12	.5	18	.2
9	0	.0	14	.2
10	0	.0	13	.2
11	2	.2	4	.1
12	18	.7	4	.1
13	18	.7	5	.1
14	10	.4	0	.0
15	0	.0	0	.0
16	2	.2	0	.0
Total...	2,454	100.0	7,756	100.0

Although the range of number of dependents for embezzlers, "none" to sixteen, was higher than the range for non-embezzlers, "none" to thirteen, the bulk of frequencies for both groups was concentrated in the sub-classes "none" to three dependents. Grouping these sub-classes "none" to three, our embezzlers had less than their quota, 77.1 per cent embezzlers as compared to 85.4 per cent non-embezzlers. The average (median) number of dependents was two for both embezzlers and non-embezzlers. The two dependents for married white-collar bonded workers were usually wife and one child; for single trusted employees, parents or relatives.

The present study shows that the average size of family, that is, number of persons per family, of white-collar bonded employees is three. This average compares favorably with the average number of persons per family of all non-relief families (3.8 persons) in 1935-1936 in the study of consumer incomes.[1] The average size of all non-relief families which is somewhat higher than the average size of white-collar bonded employees families may be explained partly by the fact that the former is computed on a large sample of 24,900,000 non-relief families of four sizes, 2 persons, 3-4 persons, 5-6 persons, and 7 or more persons, including farm families which constituted more than half of the families studied.[2]

It has already been pointed out that the average monthly income from the bonded position of the non-embezzlers was considerably higher than that of our embezzlers; that a large proportion of the non-embezzlers received other income in addition to their earnings from the bonded positions of this study, whereas a small percentage of our embezzlers received additional income; that our embezzlers on the average were younger than the non-embezzlers; and that our embezzlers had three times as many married persons as single persons in their ranks. All of these facts associated with average number of dependents, which was about the same for embezzlers and non-embezzlers, indicate that the economic pressure on embezzlers was heavier than on non-embezzlers.

A comparison of the relative percentages of embezzlers and non-embezzlers in the category "Parents Living" shows that those employees who failed to give any information on this factor had nearly four times their quota of embezzlers. For bonding companies this information is significant because in the event of embezzlement, it represents salvage possibilities. Table 31 shows the percentage distribution of embezzlers and non-embezzlers in the sub-classes of the category "Parents Living."

In Table 32 we note that white-collar workers living with their parents had more than their quota of embezzlers. There were 62 per cent of our embezzlers as compared to 51.3 per cent of our non-embezzlers who lived fairly close to their parents, that is,

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[1] U. S. National Resources Committee, Consumer Incomes in the United States, p. 21.

[2] Ibid.

with parents, in the same city, and in the same state. Residence with or near parents did not have the expected effect of a control force to influence the bonded employees to go straight.

TABLE 31

PARENTS LIVING
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Parents Living	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	139	5.7	117	1.5
Yes	1,788	72.9	5,514	71.1
No	214	8.7	1,669	21.5
Near relatives	313	12.7	456	5.9
Total	2,454	100.0	7,756	100.0

TABLE 32

PARENTS' RESIDENCE
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Parents' Residence	Embezzlers		Non-Embezzlers	
	Number	Per Cent	Number	Per Cent
Unknown	169	6.9	98	1.3
Principal lives with parents	386	15.7	1,009	13.0
Principal lives in same city, not with parents	427	17.4	1,540	19.9
Principal lives in same state	709	28.9	1,427	18.4
Principal lives in neighboring state	336	13.7	1,092	14.1
Principal lives in faraway state	213	8.7	1,462	18.8
Parents dead	214	8.7	1,128	14.5
Total	2,454	100.0	7,756	100.0

It was pointed out in the analysis of our embezzlers' occupations that a large excess of embezzlers were outside employees, on the road. Although three-fifths of our embezzlers maintained

residences near their parents, their occupations caused mobility, that is, frequent and sometimes radical changes of environment. This mobility due to occupation, it is reasonable to assume, has some influence on embezzlement.

Summary

Assuming the representativeness of the sample, the points which stand out in the analysis of the personal factors in the background of our embezzlers are:

Embezzlement occurs more frequently among native-born bonded employees and less frequently among foreign-born trusted white-collar workers. However, the present study shows that foreign-born trusted employees had more than their quota and native-born had less than their quota of embezzlers. This may be interpreted to mean that foreign-born bonded employees constitute a greater risk than native-born in trusted positions. In other words, the chances that a foreign-born bonded person will embezzle are considerably greater than for a native-born bonded employee.

Embezzlement is more frequently associated with males than with females. The chances of a male bonded employee being an embezzler are considerably higher than for a bonded female. Males are more frequently exposed to the risk of embezzlement in that they constitute more than three-fourths of the gainfully employed of voting age in the population of the United States. Also a higher percentage of males are employed in bonded white-collar positions.

The young-adult age period, twenty-five to thirty-five years, is the greatest risk period for the crime embezzlement. On the average our embezzlers were younger than our non-embezzlers. The average age for embezzlers was 32.1 as compared with 35.5 years for non-embezzlers. Bonded employees in the age groups under thirty-five years have more than their quota of embezzlers and bonded workers over thirty-five years have less than their quota of embezzlers.

Embezzlement is one type of criminal behavior which is associated more frequently with married than with single persons. Clearly our figures show that married persons contribute considerably more than their share to the crime embezzlement. Embezzlers had three times as many married as single persons in their ranks.

The average number of persons per family of white-collar bonded workers is three. Although the average number of dependents for embezzlers and non-embezzlers was the same, the range for embezzlers, 0 to 16, was higher than the range for non-embezzlers, 0 to 13. The size of family for embezzlers when linked with their economic status as revealed in the preceding chapter becomes more significant and further supports our finding that the economic pressure on embezzlers is more severe than on non-embezzlers.

Residence with or near parents which might appear to act as a control force influencing bonded employees "to go straight" was counteracted by mobility occasioned by the nature of the occupation, outside employees, of a large percentage of embezzlers.

The principal findings in this chapter may be summarized as follows: In general embezzlers are married native-born white males between the ages of twenty-five and thirty-five years with two dependents.

CHAPTER IX

THE RELATION OF ECONOMIC AND PERSONAL FACTORS TO EMBEZZLEMENT

In the two preceding chapters, a comparison between embezzlers and non-embezzlers was made in respect to economic and personal factors in their backgrounds. In this chapter an attempt is made to determine the degree of relationship between embezzlement and the various factors which appear to have bearing on this type of criminal behavior. The purpose of this chapter, we may say, is to determine which factors have bearing on embezzlement and of those factors which play a role in this one specific crime which are most significant for predicting embezzlement.

It has been pointed out earlier that the present study attempts to utilize the information on embezzlers and bonded employees who are exposed to the risk of embezzlement, that is, non-embezzlers, collected from the records of one of the largest fidelity insurance companies in the United States,[1] to arrive at a prognostic instrument for predicting embezzlement.

Studies[2] have been made utilizing the information contained in the records of penal institutions to predict the outcome on parole of criminal offenders. Penal statistics are incomplete and unreliable for predicting embezzlement, a specific type of criminal behavior. However, penal statistics appear to lend themselves to the prediction of parole.

The present study recognizes the methodology of predicting a man's probable conduct on parole by taking the cumulative

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[1] United States Fidelity and Guaranty Company, Baltimore, Maryland.

[2] S. B. Warner, "Factors Determining Parole from the Massachusetts Reformatory," Journal of Criminal Law and Criminology, XIV, No. 2 (August, 1923), 172-207; H. Hart, "Predicting Parole Success," Journal of Criminal Law and Criminology, XIV, No. 3 (November, 1923), 405-13; E. W. Burgess and Others, Parole and the Indeterminate Sentence, A Report to the Hon. Hinton G. Claybaugh (Chicago: Parole Board of Illinois, 1928), Pt. IV, "Factors

effect of many factors as Burgess,[1] the Gluecks,[2] and Vold[3] did in their studies, and attempts to apply the prediction technique in the construction of a prediction table to judge a bonded employee's probable conduct in a trusted position.

The analysis of the data of the present study shows a similarity with the above-mentioned prediction studies in that no one factor was of marked significance in regard to the violation or non-violation of a fidelity bond.

The method used was a comparison of embezzlers and non-embezzlers with reference to the influence of certain factors in their careers. Contingency coefficients were computed for each of twenty-two factors.

The coefficient of mean square contingency, expressed as C, developed by Karl Pearson, is a statistical device for measuring the degree of association of pairs of descriptive attributes.[4] It measures the degree to which the various combinations of pairs of attributes depart from independence.[5]

In Table 53 the contingency coefficients presented in rank order were obtained by establishing the relationship, that is, the relative importance to embezzlement of each of twenty factors. The percentage distributions comparing embezzlers and non-embezzlers in Chapters VII and VIII by inspection show some degree of association between the sub-classes of the factors in the economic and personal background of embezzlers and non-embezzlers. The degree of this association, that is, a numerical index of association, the coefficient of mean square contingency C, is shown in Tables 33 to 52.

Determining Success or Failure on Parole"; S. and E. T. Glueck, 500 Criminal Careers (New York: A. A. Knopf, 1930); G. B. Vold, Prediction Methods and Parole (Minneapolis: The Sociological Press, 1931).

[1]Burgess, op. cit. [2]S. and E. T. Glueck, op. cit.

[3]Vold, op. cit.

[4]K. Pearson, "On the Theory of Contingency and Its Relation to Association and Normal Correlation," Drapers' Company Research Memoirs, Biometric Series i (London: Dulau and Company, 1904); "On a Coefficient of Class Heterogeneity or Divergence," Biometrika, V (1906), 198.

[5]Independence is used in the statistical sense to mean a purely chance distribution.

By association it is not meant merely that some non-embezzlers are embezzlers, but that the number of non-embezzlers who are embezzlers exceeds the number to be expected if the embezzlers and non-embezzlers are independent.[1] The greatest possible value of C is uncertain, varying with the number of cells in the table. It is roughly the same as the Personian r, of which the highest possible value is 1. In this study complete association would mean that all non-embezzlers are embezzlers and complete disassociation would mean that no non-embezzlers were embezzlers. The degree or intensity of association of attributes is determined by the mean square coefficient of contingency. For a symmetrical table, that is, a "t times t-fold classification the greatest possible value of C is

t = 2	C	cannot	exceed	0.707
t = 3	"	"	"	0.816
t = 4	"	"	"	0.866
t = 5	"	"	"	0.894
t = 6	"	"	"	0.913
t = 7	"	"	"	0.926
t = 8	"	"	"	0.935
t = 9	"	"	"	0.943
t =10	"	"	"	0.949."[2]

The C values in Table 53 should be interpreted with the above limitations in mind.

The association between bonded employees who embezzle and those who do not embezzle with respect to the length of time in the position immediately preceding the bonded position of this study, that is, "Time in First Previous Job" was found to be fairly high, .691. Table 33 and its coefficient of contingency bears out this fact.

Those who did not violate their fidelity bond, non-embezzlers, compose 76 per cent of the 10,210 bonded employees of this study. More than four-fifths of our 1,119 bonded employees who remained ten years and more in their first previous job were non-embezzlers while only about one-fifth were embezzlers. Nearly two-thirds of our 412 bonded employees who withheld information on their first previous job were embezzlers. Mobility in previous employment seems to be more closely associated with embezzlers

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[1] G. U. Yule, An Introduction to the Theory of Statistics (10th ed. rev.; London: C. Griffin and Company, Ltd., 1932), p. 29.

[2] Ibid., p. 66.

than with non-embezzlers.

TABLE 33

TIME IN FIRST PREVIOUS JOB
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Time in First Previous Job	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Unknown	412	100	154	37.4	258	62.6
None	1,582	100	1,486	93.9	96	6.1
Less than 1 yr.	1,294	100	983	76.0	311	24.0
1-4.9 years..	3,692	100	2,596	70.3	1,096	29.7
5-9.9 " ..	2,111	100	1,633	77.4	478	22.6
10 years and more	1,119	100	904	80.8	215	19.2
Total....	10,210	100	7,756	76.0	2,454	24.0

C = .691

There is considerable association between "Color" and conduct in the bonded position. Table 34 shows that Negroes and Mongolians, although the sample is small, represent a greater risk than Caucasians. Embezzlers constitute 24 per cent of all the bonded employees in this study and 23.9 per cent of our Caucasian bonded employees were embezzlers.

TABLE 34

COLOR
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Color	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Unknown	34	100	2	5.9	32	94.1
White	10,105	100	7,692	76.1	2,413	23.9
Black	65	100	62	95.4	3	4.6
Yellow	6	100	0	0.0	6	100.0
Total....	10,210	100	7,756	76.0	2,454	24.0

C = .509

Table 35 indicates that there is a moderately high association between conduct in the bonded position and amount of "Debts" of bonded employees.

TABLE 35

DEBTS
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Debts	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Unknown	1,066	100	503	47.2	563	52.8
None	3,213	100	1,986	61.8	1,227	32.8
Under $100...	108	100	53	49.1	55	50.9
$100-$499....	2,029	100	1,830	90.2	199	9.8
$500-$999....	2,194	100	2,103	95.9	91	4.1
$1,000-$4,999	1,344	100	1,107	82.4	237	17.6
$5,000-$24,999	232	100	158	68.1	74	31.9
$25,000 and more	24	100	16	66.7	8	33.3
Total...	10,210	100	7,756	76.0	2,454	24.0

C = .442

The non-embezzlers constitute 76 per cent of our 10,210 bonded employees, but of those 2,029 bonded employees having debts between $100 and $500, the most frequently reported amounts of debts for all bonded employees, 90.2 per cent were non-embezzlers and only 9.8 per cent were embezzlers. Embezzlers had debts in all the categories, but non-embezzlers constituted a larger proportion of the bonded employees in each sub-class except that "under $100."

There is a reasonably high association between the conduct of bonded employees in trusted positions and the residence of their parents. Table 36 shows this association.

All the embezzlers constitute 24 per cent of our 10,210 bonded employees. But nearly two-thirds of those who are classified in the category "unknown," that is, those who withheld information regarding their parents' residence, were embezzlers.

Table 37 shows a fair amount of association between "Monthly Salary" and the conduct of bonded employees.

TABLE 36

PARENTS' RESIDENCE
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Parents' Residence	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Unknown	267	100	98	36.7	169	63.3
Lives with principal...	1,395	100	1,009	72.3	386	27.7
Same city not with principal...	1,967	100	1,540	78.3	427	21.7
Same state....	2,136	100	1,427	66.8	709	33.2
Neighboring state.....	1,428	100	1,092	76.5	336	23.5
Far state.....	1,675	100	1,462	87.3	213	12.7
Dead.....	1,342	100	1,128	84.1	214	15.9
Total....	10,210	100	7,756	76.0	2,454	24.0

C = .368

TABLE 37

MONTHLY SALARY FROM BONDED POSITION
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Monthly Salary	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Unknown	2,304	100	1,108	48.1	1,196	51.9
None	121	100	115	95.0	6	5.0
Under $100...	1,012	100	715	70.7	297	29.3
$100-$199....	3,808	100	3,046	80.0	762	20.0
$200-$499....	2,824	100	2,638	93.4	186	6.6
$500-$999....	125	100	119	95.2	6	4.8
$1,000 and over.....	16	100	15	93.8	1	6.2
Total...	10,210	100	7,756	76.0	2,454	24.0

C = .363

Nearly one-half of those bonded employees (2,304) who failed to state their income from their bonded positions were em-

bezzlers. A larger proportion of the bonded employees in each of the other categories were non-embezzlers but embezzlers were represented in every category, though less frequently. It was shown earlier that a larger proportion of embezzlers are commission employees than are non-embezzlers, and embezzlers on the average (median) are paid smaller monthly salaries than non-embezzlers. Nevertheless there is some association between "Monthly Income from Bonded Position" and conduct in the bonded position. The higher monthly income groups, that is, $200 and more have significantly larger proportions of non-embezzlers than embezzlers in them. This is only another way of showing that those bonded employees with a margin above the equilibrium of cost of living and salary are less likely to be embezzlers.

In the next table we present the association between the conduct of employees in bonded positions and the value of their property.

TABLE 38

VALUE OF PROPERTY
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Value of Property	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Unknown	705	100	308	43.7	397	56.3
None	2,617	100	1,991	76.1	626	23.9
Under $500 ...	1,327	100	768	57.9	559	42.1
$500-$999	2,738	100	2,147	78.4	591	21.6
$1,000-$9,999.	2,657	100	2,380	89.6	277	10.4
$10,000-$24,999	159	100	155	97.5	4	2.5
$25,000 and over	7	100	7	100.0	0	0.0
Total	10,210	100	7,756	76.0	2,454	24.0

In all the above sub-classes, except "unknown," non-embezzlers constitute the largest proportions of the bonded employees. But more than one-half of those bonded employees who withheld information on the value of their property, real and personal, were embezzlers. Not a single person owning property worth "$25,000 and over" was an embezzler. The association between

conduct of bonded employees and the value of their property while not very high is nevertheless significant. It shows in general that bonded employees with assets are a better risk.

The next table indicates that there is a fair degree of relationship between "Occupation" and the conduct of bonded employees.

TABLE 39

OCCUPATION
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Occupation	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Managers.....	1,301	100	1,045	80.3	256	19.7
Bankers.....	540	100	488	90.4	52	9.6
Outside salesmen.....	2,362	100	1,602	67.8	760	32.2
Inside salesmen.....	1,389	100	1,075	77.4	314	22.6
Oil agents....	690	100	426	61.7	264	38.3
Bookkeepers, cashiers....	1,369	100	982	71.7	387	28.3
Ticket-travel agents.....	611	100	532	87.1	79	12.9
Ins. agents...	1,319	100	1,062	80.5	257	19.5
Frat. order...	417	100	384	92.1	33	7.9
Public officials.....	212	100	160	75.5	52	24.5
Total....	10,210	100	7,756	76.0	2,454	24.0

C = .291

Of our entire group, 10,210 bonded employees about three-fourths (76 per cent) were non-embezzlers and one-fourth (24 per cent) were embezzlers. Of the total bonded employees, in all but three of the sub-classes of the category "Occupation," the proportion of non-embezzlers was in excess of three-fourths. The proportion of embezzlers of the total bonded employees in each subclass varies from 9.6 per cent of the bank employees to 38.3 per cent of the oil agents. Of the total bonded employees in each occupational group, those having the highest proportions of embezzlers, that is, more than one-fourth, were oil agents, outside

salesmen, and bookkeepers and cashiers. Although the association is not very high (C equals .291), it is significant.

It is clear from the following table that there is a reasonable amount of association between the conduct of bonded employees and their "Other Income."

TABLE 40

MONTHLY INCOME OTHER THAN FROM BONDED POSITION
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Monthly Other Income	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Unknown	764	100	353	46.2	411	53.8
None	6,759	100	4,886	72.3	1,873	27.7
Under $50	434	100	373	85.9	61	14.1
$50-$99	640	100	602	94.1	38	5.9
$100-$199	1,193	100	1,157	97.0	36	3.0
$200-$499	390	100	363	93.1	27	6.9
$500-$999	26	100	18	69.2	8	30.8
$1,000 and over	4	100	4	100.0	0	0.0
Total....	10,210	100	7,756	76.0	2,454	24.0

C = .285

Of the bonded employees in each category, the smallest proportions of those reporting other income in addition to that received from the bonded position are found among the embezzlers. The association, though not very high, is important in that it is another way of stating that embezzlement may be an economic resultant of the failure to achieve an equilibrium or a margin above the equilibrium of income and cost of living.

Table 41 presents the association between "Source of Other Income" and conduct of bonded employees.

It is clear that the association is not very high. Of those bonded employees who received additional income, non-embezzlers constitute the largest proportions in each category. The highest proportion of non-embezzlers and the lowest proportion of embezzlers are found to derive their "Other Income" from securities. All of the bonded employees who reported additional income,

from "other commissions," were embezzlers, and nearly two-thirds of the bonded employees who failed to give any information about "Source of Other Income" were embezzlers.

TABLE 41

SOURCE OF OTHER INCOME
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Source of Other Income	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Unknown	460	100	163	35.4	297	64.6
None	6,888	100	5,016	72.8	1,872	27.2
Real estate..	676	100	629	93.0	47	7.0
Securities...	671	100	655	97.6	16	2.4
Other business	1,287	100	1,113	86.5	174	13.5
Pension	155	100	133	85.8	22	14.2
Profits.....	42	100	30	71.4	12	28.6
Relatives....	23	100	17	73.9	6	6.1
Other commission	8	100	0	0.0	8	100.0
Total...	10,210	100	7,756	76.0	2,454	24.0

C = .276

The relation between "Salary Basis" and conduct of bonded employees is presented in the following table:

TABLE 42

SALARY BASIS
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Salary Basis	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Unknown	321	100	136	42.4	185	57.6
Commission...	2,518	100	1,519	60.3	999	39.7
Salary	5,045	100	4,042	80.1	1,003	19.9
Salary and commission.	2,179	100	1,943	89.2	236	10.8
Hour basis...	137	100	116	84.7	21	15.3
Fees	10	100	0	0.0	10	100.0
Total...	10,210	100	7,756	76.0	2,454	24.0

C = .272

The association is not very high yet not so low as to be negligible. Of those bonded employees who failed to give any information about their "Salary Basis" more than one-half (57.6 per cent) were embezzlers. All of the bonded employees who were embezzlers compose 24 per cent of the 10,210 cases studied. But those who were paid on a "commission" basis have nearly two-fifths (39.7 per cent) of their number among the embezzlers. All those bonded employees paid on the basis of "fees" were embezzlers. The most significant point in this table is one which has been brought out earlier in the study and has to do with the "unknown" sub-class, that is, that those who withhold information are represented in the highest risk group.

Table 43 shows the association of the "Number of Times Bonded" to the conduct of trusted employees covered by a fidelity bond.

Of the bonded employees who withheld information about previous bonding, more than two-thirds (69 per cent) were embezzlers and of those bonded employees who were bonded for the fifth time, 68.4 per cent were embezzlers. The relationship is small but not negligible.

TABLE 43

NUMBER OF TIMES BONDED
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Number of Times Bonded	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Unknown	416	100	129	31.0	287	69.0
First	5,296	100	4,252	80.3	1,044	19.7
Second	3,550	100	2,676	75.4	874	24.6
Third	709	100	521	73.5	188	26.5
Fourth	220	100	172	78.2	48	21.8
Fifth	19	100	6	31.6	13	68.4
Total...	10,210	100	7,756	76.0	2,454	24.0

C = .228

Table 44 indicates the relation which exists between the "Amount of Bond" and the conduct of bonded employees:

TABLE 44

AMOUNT OF BOND
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Amount of Bond	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Under $1,000..	1,726	100	1,136	65.8	590	34.2
$1,000-$1,999	3,094	100	2,046	66.1	1,048	33.9
$2,000-$4,999	2,928	100	2,413	82.4	515	17.6
$5,000-$9,999	1,536	100	1,333	86.8	203	13.2
$10,000-$24,999....	775	100	703	90.7	72	9.3
$25,000 and over	151	100	125	82.8	26	17.2
Total...	10,210	100	7,756	76.0	2,454	24.0

C = .223

In all the sub-classes of the category "Amount of Bond" the proportion of embezzlers is smaller than for non-embezzlers. Of all the bonded employees (10,210), 24 per cent were embezzlers. But more than one-third of the bonded employees in each of the two lowest amount of bond sub-classes were embezzlers. The association between "Amount of Bond" and conduct of bonded employees is not remarkably high, but it is clear that there is some association. Table 44 restates an earlier finding in this study that non-embezzlers are bonded for higher amounts and that the greatest risk groups are those in which bonded employees are covered by comparatively low amounts of bonds.

An appreciable though fairly low relationship between "Sex" and the conduct of bonded employees is apparent in Table 45.

TABLE 45

SEX
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Sex	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Male	8,379	100	6,197	72.2	2,382	27.8
Female	1,631	100	1,559	95.6	72	4.4
Total....	10,210	100	7,756	76.0	2,454	24.0

C = .200

The highest possible relationship would be C = .707. Of the bonded employees who were males (8,579), more than one-fourth (27.8 per cent) were embezzlers, whereas only 4.4 per cent of the female bonded employees were embezzlers. Males appear more frequently as embezzlers than females largely because more males than females are employed in bonded positions. Again, all the non-embezzler bonded employees compose 76 per cent of the 10,210 cases studied, while those non-embezzler bonded employees who were males have 72.2 per cent in that sub-class.

The relatively low association between "Age" and the conduct of bonded employees is evident from a study of Table 46.

TABLE 46

AGE
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Age	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Unknown	79	100	23	29.1	56	70.9
Under 25 years	1,146	100	753	65.7	393	34.3
25-34.9 "	4,010	100	2,915	72.7	1,095	27.3
35-39.9 "	2,204	100	1,805	81.9	399	18.1
40-49.9 "	2,216	100	1,859	83.9	357	16.1
50 and over"	555	100	401	72.3	154	27.7
Total....	10,210	100	7,756	76.0	2,454	24.0

C = .171

Approximately the same proportion of bonded employees who are embezzlers is found in the age group 25 to 34.9 (27.3 per cent) as in the fifty years and over age group (27.7 per cent).

Table 47 indicates a small association between the conduct of bonded employees and their answers to the question as to whether or not they had "Ever Been Refused a Bond." It was pointed out earlier that this question prompts a negative response because it is known that an affirmative answer jeopardizes the bond applicant's chances of being bonded again and therefore his employment in a trusted position. However, the association though small is by no means negligible.

TABLE 47

EVER BEEN REFUSED A BOND
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Ever Been Refused a Bond	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Unknown	478	100	204	42.7	274	57.3
Yes	32	100	29	90.6	3	9.4
No	9,700	100	7,523	77.6	2,177	22.4
Total....	10,210	100	7,756	76.0	2,454	24.0

C = .171

Of the 478 bonded employees who withheld information as to whether or not they had ever been refused a bond, 57.3 per cent were embezzlers. The "unknown" sub-class again is significant.

It will be seen from the next table that there is a small though recognizable association between the conduct of bonded employees and whether or not they had ever gone through bankruptcy. Of the bonded employees who failed to give any information on this factor, more than one-half (53.1 per cent) were embezzlers, and of those bonded employees who answered "yes," 57.9 per cent were embezzlers.

TABLE 48

BANKRUPT
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Bankrupt	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Unknown	416	100	195	46.9	221	53.1
Yes	88	100	37	42.1	51	57.9
No	9,706	100	7,524	77.5	2,182	22.5
Total...	10,210	100	7,756	76.0	2,454	24.0

C = .157

There is a small though appreciable relationship between the "Marital Status" and the conduct of bonded employees in their trusted positions which is apparent in Table 49.

TABLE 49

MARITAL STATUS
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Marital Status	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Unknown	42	100	14	33.3	28	66.7
Single	3,167	100	2,601	82.1	566	17.9
Married	6,441	100	4,624	71.8	1,817	28.2
Widowed	316	100	286	90.5	30	9.5
Divorced	183	100	172	94.0	11	6.0
Divorced-re-married	61	100	59	96.7	2	3.3
Total....	10,210	100	7,756	76.0	2,454	24.0

C = .155

Of the group of bonded employees who withheld information about their "Marital Status" two-thirds (66.7 per cent) are in the embezzlers' class. Except in the "unknown" sub-class of marital status, the highest proportion of embezzlers for any one marital status group is found in married bonded employees.

A relatively small association is evident between number of "Dependents" and bonded employees' conduct in their trusted positions. The following table presents this relationship:

TABLE 50

DEPENDENTS
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Dependents	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Unknown	235	100	114	48.5	121	51.5
None	2,334	100	1,845	79.0	489	21.0
1-3	6,194	100	4,790	77.3	1,404	22.7
4-5	1,095	100	769	70.2	326	29.8
6-9	289	100	225	77.9	64	22.1
10 and more...	63	100	13	20.6	50	79.4
Total....	10,210	100	7,756	76.0	2,454	24.0

C = .152

More than one-half (51.5 per cent) of the bonded employees who withheld information about dependents were embezzlers and nearly four-fifths (79.4 per cent) of the bonded employees who had "ten and more" dependents were embezzlers.

The relatively low relationship between the "Employer's Business City" and the conduct of bonded employees is evident. Table 51 shows that of the bonded employees who failed to give information on this factor 73.7 per cent were embezzlers, and 75 per cent of the bonded employees whose employer's business was located in a foreign country, although the sample is very small, were embezzlers.

TABLE 51

EMPLOYER'S BUSINESS CITY
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Employer's Business City	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Unknown	38	100	10	26.3	28	73.7
Same city as principal...	4,542	100	3,501	77.1	1,041	22.9
Same state, not city....	1,800	100	1,440	80.0	360	20.0
Neighboring state.....	1,798	100	1,240	69.0	558	31.0
Far-removed state.....	2,024	100	1,563	77.2	461	22.8
Foreign country.....	8	100	2	25.0	6	75.0
Total....	10,210	100	7,756	76.0	2,454	24.0

C = .113

The association between "Nativity" and the bonded employees' conduct in their bonded positions is low. Table 52 shows this relationship.

Native-born bonded employees have only a slightly lower incidence of embezzlers and a slightly higher incidence of non-embezzlers than foreign-born bonded employees.

Table 53 shows the twenty factors, for which distributions are presented in Tables 33 to 52 inclusive, arranged in rank order in respect to their coefficients of contingency. It will be no-

ticed that the factor most closely related to the conduct of bonded employees in trusted positions is "Length of Time in First Previous Position"; and the least significant is "Nativity."

TABLE 52

NATIVITY
2,454 EMBEZZLERS AND 7,756 NON-EMBEZZLERS

Nativity	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Unknown	129	100	33	25.6	96	74.4
Native	9,060	100	7,012	77.4	2,048	22.6
Foreign-born	1,021	100	711	69.6	310	30.4
Total..	10,210	100	7,756	76.0	2,454	24.0

C = .104

TABLE 53

CONTINGENCY COEFFICIENTS FROM A COMPARISON OF EMBEZZLERS AND NON-EMBEZZLERS FOR EACH OF TWENTY FACTORS ARRANGED IN RANK ORDER FOR THE COMBINED TEN OCCUPATIONAL GROUPS

Number of Cases	C	Category Compared for Embezzlers and Non-Embezzlers
10,210	.691	Time in First Previous Job (6 x 2 Table)
10,210	.509	Color* (4 x 2 Table)
10,210	.442	Debts (8 x 2 Table)
10,210	.368	Parents' Residence (7 x 2 Table)
10,210	.363	Monthly Salary (7 x 2 Table)
10,210	.293	Value of Property (7 x 2 Table)
10,210	.291	Occupation (10 x 2 Table)
10,210	.285	Monthly Other Income (8 x 2 Table)
10,210	.276	Source of Other Income (9 x 2 Table)
10,210	.272	Salary Basis (6 x 2 Table)
10,210	.228	Number of Times Bonded (6 x 2 Table)
10,210	.223	Amount of Bond (6 x 2 Table)
10,210	.200	Sex* (2 x 2 Table)
10,210	.171	Age (6 x 2 Table)
10,210	.171	Ever Been Refused a Bond (3 x 2 Table)
10,210	.157	Bankrupt (3 x 2 Table)
10,210	.155	Marital Status* (6 x 2 Table)
10,210	.152	Dependents (6 x 2 Table)
10,210	.113	Employers' Business Location (6 x 2 Table)
10,210	.104	Nativity* (3 x 2 Table)

*The largest percentage of embezzlers and non-embezzlers were white, male, married, and native-born.

CHAPTER X

PREDICTING EMBEZZLEMENT

In Chapter IX the relationship of twenty personal and economic factors to embezzlement was presented. Actually embezzlers and non-embezzlers were studied on the basis of the relationship to embezzlement of twenty-two factors in their personal and economic background. Twenty of these factors with contingency coefficients greater than .1 were considered significant.

Table 53 on the preceding page shows these factors arranged in rank order by contingency coefficients, "C" values. The significant factors were used to construct a model prediction table. The procedure was as follows:

The percentages of embezzlers of the total bonded employees for each of the sub-classes of the twenty factors were set down, in Table 55.

Weights ranging from 1 to 10 points were assigned to the percentages described above, according to the following table:

TABLE 54

SCORE POINTS FOR PERCENTAGES OF EMBEZZLERS OF THE TOTAL BONDED EMPLOYEES

Percentage of Embezzlers to Total Bonded Employees	Points
0 - 5	0
6 - 14	1
15 - 24	2
25 - 34	3
35 - 44	4
45 - 54	5
55 - 64	6
65 - 74	7
75 - 84	8
85 - 94	9
95 -100	10

The following table shows the twenty factors with the percentages for each sub-class of each category and their respective weights:

TABLE 55

PERCENTAGE EMBEZZLERS OF TOTAL BONDED EMPLOYEES
FOR TWENTY FACTORS, WEIGHTED BY SCORE-POINTS
(Factors Arranged in Rank Order of Contingency Coefficients)

Sub-Class	Percentage	Score-Points
Time in First Previous Job------C = .691		
Unknown	62.6	6
No job	6.1	1
Less than 1 year	24.0	2
1-4.9 years	29.7	3
5-9.9 "	22.6	2
10 years and more	19.2	2
Color----------C = .509		
Unknown	94.1	10
White	23.9	2
Black	4.6	0
Yellow	100.0	10
Debts----------C = .442		
Unknown	52.8	5
None	38.2	4
Under $100	50.9	5
$100-$499	9.8	1
$500-$999	4.1	0
$1,000-$4,999	17.6	2
$5,000-$24,999	31.9	3
$25,000 and over	33.3	3
Parents' Residence----------C = .368		
Unknown	63.3	6
Lives with principal...	27.7	3
Same city, not with principal	21.7	2
Same state	33.2	3
Neighboring state	23.5	2
Far state	12.7	1
Dead	15.9	2
Monthly Salary from Bonded Position--C = .363		
Unknown	51.9	5
None	5.0	1
Under $100	29.3	3
$100-$199	20.0	2
$200-$499	6.6	1

TABLE 55--Continued

Sub-Class	Percentage	Score-Points
$500-$999	4.8	0
$1,000 and over	6.2	1
Value of Property----------C = .293		
Unknown	56.3	6
None	23.9	2
Under $500	42.1	4
$500-$999	21.6	2
$1,000-$9,999	10.4	1
$10,000-$24,999	2.5	0
$25,000 and over	0.0	0
Occupation----------C = .291		
Managers	19.7	2
Bankers	9.6	1
Outside salesmen	32.2	3
Inside salesmen	22.6	2
Oil agents	38.2	4
Bookkeepers, cashiers...	28.3	3
Travel and ticket agents	12.9	1
Insurance agents	19.5	2
Fraternal order treasurers	7.9	1
Public officials	24.5	2
Monthly Income Other than from Bonded Position--C = .285		
Unknown	53.8	5
None	27.7	3
Under $50	14.1	1
$50-$99	5.9	1
$100-$199	3.0	0
$200-$499	6.9	1
$500-$999	30.8	3
$1,000 and over	0.0	0
Source of Other Income---------C = .276		
Unknown	64.6	6
None	27.2	3
Real estate	7.0	1
Securities	2.4	0
Other business	13.5	1
Pension	14.2	1
Profits	28.6	3
Relatives	6.1	1
Other commissions	100.0	10
Salary Basis----------C = .272		
Unknown	57.6	6
Commission	39.7	4
Salary	19.9	2

TABLE 55--Continued

Sub-Class	Percentage	Score-Points
Salary and commission ...	10.8	1
Hour basis	15.3	2
Fees	100.0	10
Number of Times Bonded---------C = .228		
Unknown	69.0	7
First	19.7	2
Second	24.6	2
Third	26.5	3
Fourth	21.8	2
Fifth	68.4	7
Amount of Bond----------C = .223		
Under $1,000	34.2	3
$1,000-$1,999	33.9	3
$2,000-$4,999	17.6	2
$5,000-$9,999	13.2	1
$10,000-$24,999	9.3	1
$25,000 and over	17.2	2
Sex----------C = .200		
Male	27.8	3
Female	4.4	0
Age----------C = .171		
Unknown	70.9	7
Under 25 years	34.3	3
25-34.9 "	27.3	3
35-39.9 "	18.1	2
40-49.9 "	16.1	2
50 years and over	27.7	3
Ever Been Refused a Bond-------C = .171		
Unknown	57.3	6
Yes	9.4	1
No	22.4	2
Bankrupt----------C = .157		
Unknown	53.1	5
Yes	57.9	6
No	22.5	2
Marital Status----------C = .155		
Unknown	66.7	7
Single	17.9	2
Married	28.2	3
Widowed	9.5	1
Divorced	6.0	1
Divorced and remarried...	3.3	0

TABLE 55--Continued

Sub-Class	Percentage	Score-Points
Dependents----------C = .152		
Unknown	51.5	5
None	21.0	2
1-3	22.7	2
4-5	29.8	3
6-9	22.1	2
10 and more	79.4	8
Employer's Business City-------C = .113		
Unknown	73.7	7
Same city	22.9	2
Same state, not city	20.0	2
Neighboring state	31.0	3
Far removed state	22.8	2
Foreign country	75.0	8
Nativity----------C = .104		
Unknown	74.4	7
Native-born	22.6	2
Foreign-born	30.4	3

An interpretation of category 1, "Time in First Previous Job" is presented below. The other factors could be interpreted in a similar manner.

Of the bonded employees who failed to give any information on the bond application form on the question of how long they had been employed in the job immediately preceding the bonded position studied, 62.6 per cent of them were embezzlers. Of those bonded employees whose bonded position of this study was their first job, they contributed 6.1 per cent of their number to the embezzler ranks. Of those who had been employed less than one year in their job immediately preceding the bonded position studied here, nearly one-fourth, 24 per cent, were embezzlers. Of those employed more than one and less than five years in their job preceding the bonded job of this study, they contributed nearly one-third, 29.7 per cent, of their number to the embezzler group. Of those who worked from five to ten years in the job preceding that of this study, 22.6 per cent of them were embezzlers. And of those who were long-time employees of ten years and more in the job preceding the bonded position studied here, there were 19.2 per cent of their number in the embezzler group. The sub-

classes under the category "Time in First Previous Job" were weighted 6, 1, 2, 3, 2, 2 respectively.

These weights or points were assigned as follows: All bonded employees who fail to give any information on how long they have been employed in their job immediately preceding the bonded job on the bond application form, will be given 6 points on this one of the twenty factors in constructing the cumulative scores for each bonded employee; those who have had no job will be given 1 point; those employed less than one year will be assigned 2 points; those employed more than one year and less than five years, 3 points; those employed more than five and less than ten years, 2 points; and those employed ten years and more, 2 points.

By the cumulative scores method the highest possible score was obtained by adding all the highest point-scores assigned to the percentages in the above categories and adding all the lowest point-scores to get the lowest possible score. Score classes between the two limits 129 and 18 were established in class intervals of 10.

For each of the 10,210 cases, embezzlers and non-embezzlers, a cumulative score on the twenty factors was computed and tallied into its respective score class. Table 56 shows the probable percentages of violators and non-violators of fidelity bonds based on cumulative scores on twenty factors for 10,210 cases. This table shows the probable violation rate of employees under a fidelity bond. While it is only a model of a prediction table to be used to select employees for honest, faithful performance of work, based on a sample of 10,210 bonded employees, it may be interpreted as a scientific device giving the probable chances of any bond applicant being an embezzler. From such a table, a clerk in a fidelity insurance company could in a short time determine a bond applicant's score on the twenty significant factors and determine with a fairly high degree of accuracy the chances of the bond applicant being an embezzler. Table 56 may be interpreted as follows:

A bond applicant scoring between 15 and 24 points has 9.7 in 10 chances (97.1 : 100) of going straight, whereas one with a score of 115 to 124 points has 9.4 in 10 (94.4 : 100) chances of being an embezzler. And one with a score of 125 points or over, the chances are 9.8 in 10 (98.1 : 100) that he will embezzle.

TABLE 56*

PROBABLE PERCENTAGES OF VIOLATORS AND NON-VIOLATORS OF FIDELITY BONDS, BASED ON TWENTY SIGNIFICANT FACTORS FOR 10,210 CASES

Score-Point Groups	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
15 - 24.9	312	100	303	97.1	9	2.9
25 - 34.9	2,384	100	2,336	98.0	48	2.0
35 - 44.9	2,028	100	1,846	91.1	182	8.9
45 - 54.9	1,789	100	1,411	78.7	378	21.3
55 - 64.9	1,200	100	784	65.3	416	34.7
65 - 74.9	892	100	584	65.4	308	34.6
75 - 84.9	652	100	264	40.5	388	59.5
85 - 94.9	396	100	144	36.8	252	63.2
95 -104.9	244	100	50	20.5	194	79.5
105 -114.9	205	100	30	14.6	175	85.4
115 -124.9	54	100	3	5.6	51	94.4
125 -134.9	54	100	1	1.9	53	98.1
Total	10,210	100	7,756	76.0	2,454	24.0

*Table 56 is the same as Table 1 in chap. 1, "Introduction," p. 9.

To test the extent of reliability of the above table in predicting embezzlement, five hundred cases of embezzlers and five hundred cases of non-embezzlers were randomly selected and their cumulative scores were tallied into the score classes of Table 57.

Table 57 shows the probable violators and non-violators of fidelity bonds, based on the cumulative scores on the twenty factors for one thousand cases.

The sample study of one thousand cases used to test the reliability of the model prediction table (Table 56) for selecting the probable violators of fidelity bonds, that is, embezzlers, shows a remarkably close similarity and consistency and establishes the reliability and validity of the method. The results seem to indicate the possibility of predicting embezzlement, that is, of determining the chances that a bonded person will violate a fidelity bond.

TABLE 57*

PROBABLE PERCENTAGES OF VIOLATORS AND NON-VIOLATORS OF FIDELITY BONDS, BASED ON TWENTY SIGNIFICANT FACTORS FOR 1,000 CASES

Score-Point Groups	Total Bonded Employees		Non-Embezzlers		Embezzlers	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
15 - 24.9	25	100	24	96.0	1	4.0
25 - 34.9	71	100	67	94.0	4	6.0
35 - 44.9	76	100	64	84.2	12	15.8
45 - 54.9	103	100	74	71.9	29	28.1
55 - 64.9	115	100	71	61.7	44	38.3
65 - 74.9	165	100	93	56.4	72	43.6
75 - 84.9	102	100	44	43.1	58	56.9
85 - 94.9	96	100	31	32.3	65	67.7
95 -104.9	84	100	17	20.2	67	79.8
105 -114.9	98	100	12	12.2	86	87.8
115 -124.9	24	100	2	8.3	22	91.7
125 -134.9	41	100	1	2.4	40	97.6
Total	1,000	100	500	50.0	500	50.0

*Table 57 is the same as Table 2 in chap. i, "Introduction," p. 10.

Summary

Tables 56 and 57, presented in this chapter, indicate that it is possible to predict the behavior of fidelity bond applicants, that is, to determine the chances that a fidelity bond applicant will or will not embezzle. Table 56 is not offered as the prediction table to be used by fidelity insurance companies to select their risks, but as a possible model of a prognostic device to be used as a scientific yardstick by fidelity bonding companies, employers, and criminologists in their approach to the problem of embezzlement.

Such a device for scientific selection of fidelity risks would seem to cut the volume of the crime embezzlement considerably and the attendant social problems resulting in and from embezzlement.

CHAPTER XI

SUMMARY OF FINDINGS AND CONCLUSION

The present study had two major objectives:

To discover what factors in the economic and personal background of bonded white-collar workers played a role in the crime embezzlement; and

To determine to what extent the combined effect of the significant factors could be used to predict this one kind of criminal behavior.

The principal findings, which appear in summaries at the end of each chapter, are presented in review here.

The Economic Factors

Embezzlement occurs in all white-collar occupations but the incidence in certain occupational groups is more marked than in others. Outside employees had nearly double their quota of embezzlers. That is, the combined group of outside employees (including outside salesmen and collectors for all kinds of mercantile establishments, commission oil agents, and insurance salesmen-agents) contributed considerably more than their share to the crime embezzlement. The present study indicates that outside employees constitute the worst risk group. The next poorest risk group were bookkeepers, cashiers, secretaries, and office employees (except those employed in banks, and secretaries of fraternal societies) whose duties consisted of keeping accounts, receiving, depositing and paying out cash, filing and taking charge of confidential business correspondence, having knowledge of and access to the employer's funds.

Businesses which had more than their quota of embezzlers were oil companies, food products establishments, public utility companies, real estate organizations, and storage and warehouse concerns.

Embezzlers were more mobile in their previous jobs than were non-embezzlers. More than one-half of our embezzlers re-

mained less than five years in their two jobs immediately preceding the bonded position studied.

Bonded employees working on a commission basis represent a greater risk than those earning a fixed salary. Employees working on commission had more than double their quota of embezzlers. The monthly income of employees working on a commission basis is uncertain. Fluctuations in their incomes appear to be influenced by supply and demand for their goods and services, open competition, shipping and transportation, territory, etc. Therefore, it is not surprising that outside employees, a large percentage of whom are paid on a commission basis, represent the worst risk group. The uncertainty of achieving an equilibrium to say nothing of the chances of attaining a margin above the equilibrium of income and cost of living may be a significant motive for embezzlement.

The average (median) amount of bond for non-embezzlers was nearly twice the average bond for embezzlers. The amount of bond appears to be a crude index of the employee's status and feeling of importance in the business group.

Embezzlers on the average received lower monthly incomes than non-embezzlers. The average (median) monthly income of our embezzlers was $141.80 as compared with $211.41 for non-embezzlers. The bulk of our embezzlers were earning an annual income of about $1,200. This figure is slightly above the median non-relief family income ($1,160) in the United States in 1935-1936.

Few embezzlers (7 per cent) reported any additional monthly income from securities, rent on property owned, or other business, whereas more than one-third (35.4 per cent) of our non-embezzlers had other monthly income. The average (median) monthly income of non-embezzlers was more than three times that of embezzlers.

The value of property owned by embezzlers was considerably lower than that owned by non-embezzlers. More than one-half of our non-embezzlers owned property valued under $1,000 whereas about one-third of our non-embezzlers owned property valued so low. About 10 per cent of our embezzlers owned property worth $1,000 to $2,500, and about 25 per cent of our non-embezzlers owned property of like value. Less than 1 per cent of our embezzlers owned property valued at $2,500 or more, as compared with 11.1 per cent of our non-embezzlers. The property which em-

bezzlers owned consisted for the most part of house furnishings and inexpensive automobiles. It is probable that few owned their own homes or had assets which might be turned into capital to meet an emergency.

Embezzlers on the average had higher debts, lower property value, lower monthly incomes, and were bonded for less than non-embezzlers.

The Personal Factors

The present study confirms previous studies and opinions that embezzlement is associated more frequently with males than with females. Males had considerably more than their quota of embezzlers. In the 1930 United States Census, about three-fourths of the gainfully employed, twenty-one years of age and over, were males. In this study, the control group of non-embezzlers is assumed to be representative of the gainfully employed in white-collar trusted positions in the general population. There were 79.9 per cent of our non-embezzlers and 96.7 per cent of our embezzlers who were males. The high rate for males may be explained partly by the high percentage of males gainfully employed in trusted positions and therefore more males than females are exposed to the risk of embezzling. Less than 25 per cent of females twenty-one years of age and over in the population of the United States in 1930 were gainfully employed.

Although our study shows a large excess of white persons in bonded positions and a high percentage of white persons who were embezzlers, actually white persons had less than their quota of embezzlers.

Foreign-born trusted employees, although the sample is small and they are represented less frequently in bonded positions than native-born white persons, contributed more than their share to the embezzler ranks in this study. This finding is counter to the findings in recent studies which show that foreign-born persons contribute less than their quota to the criminal population of the United States.

Embezzlers on the average were younger than our non-embezzlers. The average (median) age of embezzlers was 32.1 years as compared with 35.5 years for non-embezzlers. The median age of our embezzlers is lower than the median age of embezzlers committed to prisons in the United States in 1930. Our figures show

that the young-adult period, twenty-five to thirty-five years of age, includes the largest percentage of bonded white-collar workers and the highest percentage of embezzlers. The present study confirms opinion that the young-adult period of life, for the specific crime embezzlement, represents the greatest risk.

The present study shows that embezzlement is one kind of criminal behavior more frequently associated with married persons. About three times as many married persons were embezzlers as were single persons. In other words single persons had less and married persons had more than their quota of embezzlers. This finding is not consistent with the findings on crime in general based on statistics of prison commitments in the United States which show the lowest rate for married persons. Clearly our figures show that married persons contribute more than their share to the crime embezzlement.

Although the range of number of dependents for embezzlers was higher than for non-embezzlers, the average (median) number of dependents was two for both groups. The average number of dependents for embezzlers takes on added significance when we associate with it such findings as embezzlers had lower incomes, higher debts, and lower property value than non-embezzlers. Our study would indicate that the economic pressure on embezzlers was heavier than on non-embezzlers.

General Findings

Embezzlers are usually lone offenders. An analysis of several thousand cases of embezzlers revealed that less than 5 per cent embezzled by collusion.

Embezzlers generally embezzle money. Less than 10 per cent of our embezzlers embezzled goods.

Our study of techniques used to accomplish the embezzlements revealed that embezzlers are seldom of the "grab-and-run" type; frequently they "perfect" a system; sometimes they follow a pattern of "shady business" which their superiors apparently get away with; usually they are the "little-fellow who becomes a big-fellow" type, that is, they begin with small peculations and when not discovered take larger and larger amounts.

A study of the embezzlers' embezzlements in respect to period of time over which the embezzlement was accomplished, amount, and excess loss, revealed that long-time trusted employees

of ten years and more embezzled the largest amounts. From the point of view of the highest amounts of loss to the bonding company, and frequently to the employer, the long-time trusted employee of ten years or more constitutes the greatest risk. From the point of view of percentage frequency of embezzlement, the present study shows that more than two-thirds (69.4 per cent) of our embezzlers embezzled during the first three years in the bonded position.

The significant point in the analysis of the relation of length of time in the bonded position to the amount of embezzlement is that embezzlers develop the habit of embezzling and, if their peculations are not discovered in the early years of employment, they tend to become the long-time trusted employee embezzler.

The average amount of embezzlement was $1,745. More than four-fifths of our embezzlers embezzled amounts under $5,000. Less than one-fourth (23.4 per cent) of the embezzlers' embezzlements were within the bond coverage and more than three-fourths (76.6 per cent) were in excess of the bonds. The average (median) excess loss was $1,255.

Conclusion

The present study indicates that the combined effect of twenty significant factors (time in first previous job, color, debts, parents' residence, monthly salary, value of property, occupation, monthly other income, source of other income, salary basis, number of times bonded, amount of bond, age, sex, nativity, marital status, dependents, refusal of bond, bankrupt, employer's business location), has important bearing on the crime embezzlement. A prognostic device similar to the model constructed in this study would provide a scientific yardstick for predicting embezzlement. Our tables show that it is possible to predict the chances that a fidelity bond applicant will or will not embezzle.[1]

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[1] Advantages: (1) A prediction table similar to that presented here would supplement the experience of bonding companies. (2) By a scientific selection of risks, the bonding company stands to make money by cutting losses. (3) Employers stand to gain by the faithful and honest performance of trusted employees, and employers suffer less from excess loss. (4) The device is so simple that a clerk in a fidelity insurance company could quickly total an applicant's score, refer it to the prediction table, and determine the chances that the applicant will embezzle. (5) With

prediction tables refined by occupation, age, sex, etc., fidelity insurance would approach a scientific basis comparable to that of life insurance companies in their use of mortality tables. (6) Such a device would seem to cut the volume of cases of embezzlement and lessen the social problems resulting in and from embezzlement.